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CEREAL PRODUCTION OF EUROPE.

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LETTER OF TRANSMITTAL.

U. S. Department of Agriculture,
Bureau of Statistics,
Washington, D. C., August 1, 1907.

Sir: I have the honor to transmit herewith a manuscript containing results of an investigation of the conditions attending the production, supply, and consumption of grain in Europe during a long period of years. The object of this investigation is to acquaint the farmers of the United States and the traders in grain with the situation in Europe, which is the principal market for the surplus of this country.

This bulletin was prepared by Dr. Frank R. Rutter while Assistant Chief of the Division of Foreign Markets.

It is respectfully recommended that this manuscript be published as Bulletin 68 of this Bureau.

Very respectfully,

C. C. Clark,
Acting Chief of Bureau

Hon. James Wilson,
Secretary of Agriculture.

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CEREAL PRODUCTION OF EUROPE.

SURPLUS OF EASTERN INADEQUATE TO SUPPLY WESTERN EUROPE.

The eastern and western divisions of Europe present a strong contrast in respect to grain culture and trade. In the former a large acreage in grain yields surplus supplies, increasing in amount, which compete with American, Indian, and Australian grain in the great importing countries of western Europe. In western Europe, on the contrary, a large deficit in breadstuffs necessitates importation from foreign countries. This dependence on foreign markets has resulted in cheaper supplies.

The possible economic advantage from lower prices is, however, in the opinion of many, offset by grave danger through the possible interruption of the supply in case of war. This fear gave rise in the United Kingdom to a royal commission, appointed to inquire into the conditions affecting the importation of food and raw material into the United Kingdom in time of war. In Germany strong efforts have been made to safeguard the interests of agricultural classes and to make the country self-sufficing in regard to food. In Portugal the importation of foreign flour has been practically cut off and the importation of wheat strictly limited, except in the case of unusual crop shortages.

Considering Europe as a whole, its dependence on foreign countries for wheat has increased from less than 150,000,000 bushels on the average in 1886–1890 to more than 250,000,000 bushels per year in 1901–1905. Considering western Europe alone, the growing deficiency was even more marked. Requiring from foreign sources about 300,000,000 bushels a year in 1886–1890, these countries were compelled during the period 1901–1905 to import almost 500,000,000 bushels a year.

But at the same time that this movement has been in progress in countries of western Europe, the countries of eastern Europe have continuously increased their surplus production, so that while they supplied to foreign countries about 175,000,000 bushels a year during the five years ending 1890, they furnished over 225,000,000 bushels a year during the last five years under consideration. The net exports

of wheat from eastern Europe, while showing a large absolute increase, represented only 24 per cent of the production in 1901–1905 as compared with 28 per cent in 1886–1890.

NATURAL DIVISIONS OF EUROPE.

The distinction between the importing countries of western Europe and the exporting countries of eastern Europe is not only marked, but of increasing importance. The line dividing the two is not, however, one of longitude. If a line is run beginning between Finland and Russia and continuing southward to the east of Germany and Austria and to the west of Hungary and Bosnia-Herzegovina, it will divide the countries which have a surplus production from those which depend largely on foreign sources for their grain supplies. It will also be found to divide in general the countries of Teutonic and Romanic population from those of Slavic, Magyar, and Turkish population.

Another line may likewise advantageously be drawn, beginning at the Adriatic Sea and running northwest, separating Italy and France on the one side from Austria, Switzerland, Belgium, and Germany on the other. Owing to difference in elevation and in distance from the Atlantic seaboard, this line, although much of its course is almost north and south, follows closely the direction of the isothermals in winter and therefore in climate may be said to separate the northern from the southern part of western Europe. In respect to race, this line separates the nations of Teutonic origin from those of Latin origin. The United Kingdom, Norway, and Sweden are, of course, included in the Teutonic division.

The northwest, or Teutonic, division comprises the countries where grain culture is most deficient and where in consequence the greatest dependence on foreign supplies is necessary. In the Latin, or southwestern division, there is need of foreign grain only to a minor degree, and this dependence does not seem to be on the increase. If for northwestern Europe a comparison is made for the four five-year periods beginning with 1886–1890 and ending with 1901–1905, it will be found that domestic agriculture has decreased its contribution to the total supply of wheat from 53 to 38 per cent.

OUTLINE OF STATISTICS PRESENTED.

In order to present the elements necessary to determine the needs for grain and the surplus production in various countries, the statistics of acreage and production and of imports and exports have been collected for each country of Europe, as far as they have been officially published, covering a period of twenty years.

The statistics relating to the main progress or decline of grain culture, which are of first importance in studying the competition met

from Russia, Hungary, and the Balkan States, are given in this bulletin. In a following bulletin will be presented the statistics of grain movement, which derive their chief interest from the picture they portray of the varying needs of foreign supplies in the countries of western Europe. A series of tables (Nos. 8 to 22) is given summarizing the statistics that appear in both bulletins, accompanied by a discussion of results. In a few instances, absence of official data made necessary the insertion of estimates in these introductory tables. A full explanation of how such estimates were derived is given in the body of the bulletin under the country concerned.

In the statistics summarizing the area in grains, the data for eastern Europe and for total Europe exclude Asiatic Russia and Asiatic Turkey. These two non-European divisions, however, are in all cases shown in the detailed tables, since the combined statistics of production for each of these powers are frequently desired and for trade purposes their Asiatic dominions form an integral part of Turkey and Russia. For the latter reason it is impossible to show separately the imports and exports of Asiatic and European Russia or Asiatic and European Turkey. In the case of Russia the commercial statistics show separately the trade over the European and over the Asiatic frontiers, but not the movement of grain between the Asiatic and the European territory. No customs line is there drawn. The import and export statistics consequently of necessity refer to the whole country, and, in order to compare these with the production statistics so as to ascertain the total supply, the non-European ports are included. This distinction between area statistics on the one hand and the production and trade statistics on the other must be borne in mind.

Wherever, in the original, the statistics of production or trade have been shown in units both of weight and of capacity, weight has been adopted in this bulletin.[a] In the case of imports and exports the statistics are almost entirely published in units of weight, and it is believed that such figures are more strictly comparable than are those giving capacity units. Wherever capacity units have been used a footnote has been inserted to that effect.

Owing to the ordinarily more precise character of import and export returns, such statistics, as converted from the original form, have been carried out to the final figure, while the acreage and crop statistics have been rounded.

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[a] A bushel, whenever converted from a unit of weight, represents in the case of wheat, 60 pounds; maslin, 58 pounds; rye, corn, and millet, 56 pounds; barley and buckwheat, 48 pounds; spelt, 36 pounds; malt, 34 pounds; and oats, 32 pounds. A barrel of flour is taken as equivalent to 196 pounds.

EXTENT OF GRAIN CULTURE.

The area devoted to grain in Europe increased during the twenty years from 1885 to 1905 about 40 million acres. Practically the whole of this increase took place in eastern Europe. In the northwestern division there was a very small decline and in southwestern Europe an increase of about an equal amount.

In the southwestern division of Europe the grain area represents about 21 per cent of the total land surface and in the northwestern division about 13 per cent, as compared with 18 per cent in the eastern division. The increase in grain acreage in eastern Europe from 1885 to 1905 represents over $2\frac{1}{2}$ per cent of the total land surface.

Of the various countries of Europe, Roumania stands first, both in the proportion of its total surface occupied by grain and in the rapid increase of that acreage as compared with its total land surface. More than 38 per cent of the total country, according to the official statistics for 1905, was devoted to the various grains, as compared with 31 per cent in 1885.

In Hungary and Denmark more than 30 per cent of the total land surface was sown in grain. Italy, Germany, France, and Belgium follow with percentages between 28 and 25 per cent. As compared with the countries already indicated, Norway shows the greatest contrast. In that country less than one-half of 1 per cent of the total land surface was planted in grain, while in Turkey and Finland less than 2 per cent and in Russia and Sweden about 4 per cent was so utilized. The low percentages for Russia and Turkey are due partly to the inclusion of the Asiatic territories of those powers, in which a much smaller part of the total land is occupied in grain culture. In European Russia the grain acreage represented 17 per cent in 1905, and in European Turkey 10 per cent of the total area of the country.

In total amount the increased grain area in Russia is by far the most important, but relative to its total land surface the increase found in Russia is much less than that in Roumania and Bulgaria. The most marked decline relative to the size of the country was in Belgium, no less than 30 per cent of its land in 1885, as compared with 25 per cent in 1905, being planted in grain.

In the United Kingdom the cereals occupied 12 per cent of the total area in 1885 and 10 per cent in 1905.

The total land area of each country of Europe, together with the grain area in 1885, 1895, and 1905, is shown in Table 1. In some cases it is necessary to include the area under water in the land area. As far as possible the statistics are taken from official sources, usually the statistical abstract of each country. In the absence of official figures for Turkey, Juraschek's estimates of the total area, as given

in Hübner's Geographisch-Statistische Tabellen, were accepted. For Greece, Portugal, and Spain the total area was derived from the Statistical Abstract for Principal and Other Foreign Countries, published by the British Board of Trade. The statistics of grain area, as a rule, have been obtained by adding the acreage under each grain as given in the detailed tables later in this bulletin. In a few cases, however, it was necessary to insert statistics for years other than those named and occasionally to estimate in order to make the table complete.

TABLE 1.—*Grain area, 1885, 1895, and 1905, compared with the total land area, by countries.*

Country.	Total land area.	1885		1895		1905	
		Total in grain.	Per cent.	Total in grain.	Per cent.	Total in grain.	Per cent.
Austria-Hungary:	*Acres.*	*Acres.*		*Acres.*		*Acres.*	
Austria	74,132,000	17,000,100	22.9	16,446,400	22.2	16,560,300	22.3
Hungary	80,272,000	22,138,100	27.6	23,165,100	28.9	24,215,500	30.2
Bosnia-Herzegovina	12,609,000	1,467,000	11.6	1,573,000	12.5	1,714,000	13.6
Total Austria-Hungary	167,013,000	40,605,200	24.3	41,184,500	24.7	42,489,800	25.4
Belgium	7,278,000	2,207,300	30.3	2,000,700	27.5	1,846,400	25.4
Bulgaria	23,649,000	3,965,100	16.8	4,706,700	19.9	5,586,600	23.6
Denmark	9,397,000	2,844,900	30.3	2,903,300	30.9	2,859,300	30.4
Finland	82,025,000	1,377,700	1.7	1,559,600	1.9	1,578,300	1.9
France	130,682,000	36,680,400	28.1	36,727,400	28.1	33,358,400	25.5
Germany	133,620,000	35,104,600	26.3	35,537,400	26.6	36,339,300	27.2
Greece	15,615,000	1,048,000	6.7	1,234,500	7.9	1,410,000	9.0
Italy	69,744,000	17,942,300	25.7	18,429,100	26.4	20,179,800	28.9
Netherlands	7,741,000	1,247,400	16.1	1,179,600	15.2	1,151,900	14.9
Norway	76,226,000	455,700	.6	449,600	.6	402,000	.5
Portugal	21,923,000	2,900,000	13.2	2,925,000	13.3	2,950,000	13.5
Roumania	32,458,000	10,018,300	30.9	10,845,300	33.4	12,447,500	38.3
Russia:							
European	1,277,915,000	177,650,000	13.9	177,882,700	13.9	210,451,000	16.5
Asiatic	3,981,061,000	4,450,000	.1	9,044,200	.2	12,002,900	.3
Total Russia	5,258,976,000	182,100,000	3.5	186,926,900	3.6	222,453,900	4.2
Servia	11,936,000	2,790,200	23.4	2,349,200	19.7	2,947,200	24.7
Spain	124,636,000	14,793,000	11.9	13,376,000	10.7	16,536,700	13.3
Sweden	101,563,000	3,821,000	3.8	4,056,900	4.0	4,113,900	4.1
Switzerland	10,247,000	588,900	5.7	548,200	5.3	544,400	5.3
Turkey:							
European	41,839,000	4,240,000	10.1	4,240,000	10.1	4,240,000	10.1
Asiatic	436,583,000	4,960,000	1.1	4,960,000	1.1	4,960,000	1.1
Total Turkey	478,422,000	9,200,000	1.9	9,200,000	1.9	9,200,000	1.9
United Kingdom	77,498,000	9,314,700	12.0	8,384,800	10.8	7,893,600	10.2
Total	6,840,649,000	379,004,700	5.5	384,524,700	5.6	426,289,000	6.2
Europe, not including Asiatic Russia and Asiatic Turkey	2,423,005,000	369,594,700	15.3	370,520,500	15.3	409,326,100	16.9
Northwestern (Teutonic)	579,727,000	73,962,300	12.8	73,066,500	12.6	73,289,400	12.6
Southwestern (Latin)	346,985,000	72,315,700	20.8	71,457,500	20.6	73,024,900	21.0
Eastern	1,496,293,000	223,316,700	14.9	225,996,500	15.1	263,011,800	17.6

ARABLE LAND AND GRAIN AREA.

The wide divergence in the proportion of land devoted to grain, as shown in Table 1, is due largely to variations in the character of the land, which unfit large areas for cultivation. In Norway but 1 per cent, in Finland[a] only about 2 per cent, and in Sweden but 9 per cent of the total land surface consists of arable land. In Denmark, on the other hand, 68 per cent of the total area and in Belgium 63 per cent is arable. In France and Germany arable land comprises nearly one-half of the total surface and in Hungary, Roumania, Italy, and Austria over one-third.

If arable land is taken to represent the entire area on which it is possible to raise grain the proportion of the total grain area to the arable land will represent the extent to which this possibility has been realized in each country. In Roumania 99 per cent of the total arable land is planted in grain and in Servia 98 per cent. In Italy and Bulgaria the various cereals occupy more than three-fourths and in Hungary 72 per cent of the arable land. In Switzerland the grain acreage is smallest in comparison with the arable land, amounting only to 32 per cent. In Belgium grain occupies only 40 per cent and in the United Kingdom 42 per cent of the arable land.

For all European countries that publish official statistics of arable land, Table 2 gives the total land area, the area of arable land, and the grain area.[b]

TABLE 2.—*Relation of grain area to arable land, by countries.*[c]

Country.	Land area in acres.	Arable land.		Grain area.	
		Acres.	Per cent of land area.	Acres.	Per cent of arable land.
Austria-Hungary:					
Austria	74,132,000	26,145,000	35.3	16,560,300	63.3
Hungary	80,272,000	34,027,000	42.4	24,215,500	71.2
Bosnia-Herzegovina	12,609,000	2,726,000	21.6	1,714,000	62.9
Total Austria-Hungary	167,013,000	62,898,000	37.7	42,489,800	67.6
Belgium	7,278,000	4,578,000	62.9	1,846,400	40.3
Bulgaria	23,649,000	7,352,000	31.1	5,586,600	76.0
Denmark	9,397,000	6,402,000	68.1	2,859,300	44.7
France	130,682,000	62,726,000	48.0	33,358,400	53.2
Germany	133,620,000	63,690,000	47.7	36,339,300	57.1
Italy	69,744,000	26,056,000	37.4	20,179,800	77.4
Netherlands	7,741,000	2,126,000	27.5	1,151,900	54.2
Norway	76,226,000	1,019,000	1.3	402,000	39.5
Roumania	32,458,000	12,602,000	38.8	12,447,500	98.8
Russia (European)	1,277,915,000	328,389,000	25.7	210,451,000	64.1
Servia	11,936,000	2,999,000	25.1	2,947,200	98.3
Sweden	101,563,000	8,878,000	8.7	4,113,900	46.3
Switzerland	9,870,000	1,681,000	17.0	544,400	32.4
United Kingdom	77,498,000	18,712,000	24.1	7,893,600	42.2

[a] See Hübner's Geographisch-Statistische Tabellen, 1906, p. 92.

[b] The area of arable land in Switzerland is calculated from official statistics. See p. 92 of this bulletin.

[c] In Hübner's Geographisch-Statistische Tabellen, 1906, the arable land in Finland is given as 2.3 per cent, Greece 14 per cent, Portugal 22.4 per cent, Spain 35.4 per cent.

As far as possible the figures for arable land include sown grasses, but not gardens, vineyards, or orchards. In each case the statistics for the latest year available are given, varying from 1892 in the case of France to 1905 for Austria, the Netherlands, Sweden, and the United Kingdom.[a]

LIMITS OF GRAIN CULTURE.

Of the various grains, barley has the most northern limits, oats second. These two grains are cultivated almost to the North Cape of Norway, from which point the line falls as it proceeds eastward to about 60° latitude, where it enters Asia. The very high latitude at which these grains may be cultivated in Norway is due to the remarkably mild climate of that country, owing probably to the long seacoast and westerly winds.

The limits of rye culture are somewhat farther north than those of wheat. The former almost reaches the Arctic Circle in Sweden, while the latter crosses Norway and Sweden at about 65° and bending southeast passes into Asia at about 50° latitude.

The southern grain is corn. Its culture reaches its northern limit in France and southern Germany, passes through Austria-Hungary near Vienna and Budapest, and includes Roumania and southern Russia.

In practical agriculture extensive culture of the various grains is, of course, much farther south than the possible limits named. It naturally follows that barley and oats form the most important part of the grain area in the most northern countries. Norway devotes a larger proportion of its total grain area to each of these grains than does any other country, and the United Kingdom is second. In barley culture European Turkey, Denmark, and Spain are the next three countries in respect to the relative area devoted to barley, while in the culture of oats Sweden, Spain, and Finland follow Norway and the United Kingdom. The presence of southern countries in these lists indicates the wide range of barley and oats.

In Italy more than 60 per cent of the total grain area is devoted to wheat, and in Spain over 50 per cent. The other countries which are highest in their relative wheat area are Greece, France, Bulgaria, and Turkey.

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[a] For Italy the area of arable land has been obtained by the addition of the acreage under the various crops about 1894. For Belgium and Bosnia-Herzegovina, the figures refer to 1895; for Bulgaria, 1897; for Germany and Norway, 1900; for Denmark and European Russia, 1901; for Roumania, 1903, and for Hungary and Servia, 1904.

Rye forms an important part of the total grain area only in five countries of central Europe—Netherlands, Germany, Belgium, Finland, and European Russia. The southern countries—Servia, Bosnia-Herzegovina, Roumania, and Portugal—make corn their leading grain product.

In only one country, Switzerland, is the raising of spelt of any considerable importance relative to other grains; there a larger area is devoted to that cereal than to any other except wheat and oats. Wheat occupies 29 per cent of the total grain area of Switzerland, oats 25 per cent, and spelt 24 per cent.

Considering Europe as a whole, wheat is by far the most widely raised. It occupied 31 per cent of the total grain area in 1905, while rye occupied 25 per cent, oats 20 per cent, barley 11 per cent, and corn 7 per cent of the total area devoted to cereals. About 6 per cent of the cereal land was planted to the minor crops; of these buckwheat and millet each occupied about 2 per cent and maslin and spelt less than 1 per cent each.

The preponderance of the wheat area is observed most strikingly in the southwestern division of Europe. There over one-half of the surface devoted to grain is occupied by wheat, while in the eastern division wheat occupies less than one-third and in the northwestern division one-seventh of the total grain lands.

In the northwestern division oats is the leading grain, followed closely by rye. Barley and wheat each occupy less than one-half of the area devoted to the grains just named, while corn culture is almost negligible.

In southwestern Europe wheat is preeminent, occupying 53 per cent of the grain area. Wheat is followed in point of acreage by oats and corn, which occupy, respectively, 16 and 11 per cent of the total land under grain. About 8 per cent of grain land was sown in barley and an equal area in rye.

In the eastern division rye is but slightly less important than wheat, occupying 28 per cent of the grain land as compared with 29 per cent for wheat. Oats is grown in that division on 18 per cent, barley on 11 per cent, and corn on 7 per cent of the grain acreage.

In Table 3 is shown the relative extent to which each grain is raised in the various countries of Europe, together with summaries for each of the three divisions. The data from which these percentages are calculated are shown in Table 4.

TABLE 3.—*Relative acreage under the various grains, by countries, 1905.*

Country.	Wheat.	Rye.	Barley.	Oats.	Corn.	Buckwheat.	Spelt.	Maslin.	Millet.	Other.
Austria-Hungary:	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Austria	16.80	29.38	17.73	26.98	5.20	2.54	0.07	0.35	0.95	.....
Hungary	37.98	11.53	11.24	11.39	25.75	.23	.07	1.26	.55	.....
Bosnia-Herzegovina	18.93	2.44	15.04	15.85	41.50	.12	2.33	1.46	2.33	.....
Total Austria-Hungary	28.96	18.12	13.92	17.65	18.37	1.13	.16	.91	.78	.....
Belgium	21.80	35.73	5.11	31.76	.....	.30	3.74	1.56	.....	.....
Bulgaria	47.41	8.05	10.32	7.68	20.92	.....	.67	4.49	.46	.....
Denmark	3.54	23.58	22.96	36.97	.....	.99	.....	11.96	.....	.....
Finland	.40	34.21	17.74	46.25	.....	.06	.....	1.33	.....	.....
France	48.23	9.40	5.24	28.24	3.72	3.88	.....	1.11	.18	.....
Germany	13.10	41.79	11.11	28.44	.....	.95	2.27	2.31	.....	0.03
Greece	49.64	.71	16.31	3.55	17.73	.....	.....	12.06	.....	.....
Italy	65.09	1.49	3.96	5.45	24.01	.....	.....	.....	.....	.....
Netherlands	13.08	47.03	7.09	28.29	.....	4.46	.05	.....	.....	.....
Norway	3.11	8.03	24.30	59.88	.....	.....	.....	4.68	.....	.....
Portugal	25.42	22.03	8.48	6.78	37.29	.....	.....	.....	.....	.....
Roumania	38.87	3.20	10.50	7.40	39.22	.02	.....	.....	.79	.....
Russia:										
European	27.05	33.46	11.28	20.04	1.66	2.57	.57	.....	3.37	.....
Asiatic	43.99	20.16	3.87	25.78	.12	1.03	.09	.....	4.96	.....
Total Russia	27.97	32.74	10.88	20.35	1.58	2.48	.54	.....	3.46	.....
Servia	31.20	3.99	9.04	8.76	46.32	.14	.53	.....	.02	.....
Spain	53.69	11.22	20.17	6.77	6.95	.....	.35	.81	.02	.02
Sweden	5.00	24.65	12.49	49.37	.....	.01	.....	8.48	.....	.....
Switzerland	28.84	16.90	3.68	25.17	.....	.....	23.51	1.91	.....	.....
Turkey:										
European	41.27	8.49	22.41	11.32	16.51	.....	.....	.....	.....	.....
Asiatic	45.36	6.86	11.09	10.48	26.21	.....	.....	.....	.....	.....
Total Turkey	43.48	7.61	16.30	10.87	21.74	.....	.....	.....	.....	.....
United Kingdom	23.24	.92	23.67	52.17	.....	.....	.....	.....	.....	.....
Total	31.48	25.13	11.21	20.37	6.81	1.82	.56	.69	1.93	.....
Europe, not including Asiatic Russia and Asiatic Turkey	30.94	25.50	11.43	20.33	6.77	1.86	.59	.72	1.86	.....
Northwestern (Teutonic)	14.21	32.31	14.44	32.78	1.18	1.17	1.41	2.28	.21	.01
Southwestern (Latin)	53.20	8.14	8.40	16.21	11.42	1.77	.08	.69	.09	.....
Eastern	29.43	28.42	11.43	18.00	7.05	2.08	.49	.29	2.81	.....

VARIOUS MEANINGS OF CORN.

The word "corn," together with its German equivalent, Korn, and its French equivalent, blé, has wide variations in meaning in different countries. These differences illustrate aptly the peculiar conditions in different countries. In the United States the term is applied only to maize or Indian corn, and in this sense is used throughout this bulletin. Elsewhere in the English-speaking world the term denotes grain in general and particularly wheat, rye, oats, and barley. The term in the United Kingdom is frequently applied to wheat alone, just as is blé in France, and unless context requires a different meaning may be taken to indicate wheat rather than grain in general. In Germany "Korn," if not qualified, indicates rye; in Swedish the same

word means barley, the great northern cereal; while in some cantons of Switzerland, where spelt culture is that most generally practiced, the term is applied to that grain.

PROGRESS OF GRAIN CULTURE.

Only in eastern Europe is grain culture increasing in extent. In northwest and southwest Europe the acreage is practically the same today as twenty years ago. The increase has taken place principally in wheat. In 1885 that grain occupied 51,000,000 acres in eastern Europe, while in 1905 it covered no less than 77,000,000 acres. In southwestern Europe wheat gained 2,000,000 acres during the 20 years, while in northwestern Europe it lost about the same amount.

Outside of wheat, oats exhibits the largest increase. During the 20 years under review the total gain in area was 9,000,000 acres, to which northwest and southwest Europe each contributed 1,000,000 acres, while the rest of the gain was made in the eastern countries.

Barley occupied 8,000,000 acres in 1905 more than the area devoted to it in 1885. The gain took place entirely in eastern Europe, the two divisions of western Europe each showing a considerable decrease.

Corn showed a gain during the twenty years of 4,000,000 acres, while rye was practically stationary, increasing in eastern Europe less than 400,000 acres and in northwestern Europe about 700,000 acres, but falling off in southwestern Europe over 1,000,000 acres. In 1885 the acreage under rye exceeded that of wheat by nearly 3,000,000 acres, while in 1905 the wheat acreage was larger by 27,000,000 acres. (See Table 4.)

TABLE 4.—*Extent of area under the various grains, by countries, 1885, 1895, and 1905.*[a]

Country.	Wheat.			Rye.			Barley.		
	1885	1895	1905	1885	1895	1905	1885	1895	1905
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Austria-Hungary:									
Austria	2,950,600	2,628,600	2,782,300	4,928,400	4,477,200	4,864,600	2,882,300	2,949,500	2,935,900
Hungary	7,172,100	8,304,800	9,197,700	3,061,200	2,802,800	2,790,900	2,757,100	2,658,400	2,722,400
Bosnia-Herzegovina	[b] 200,000	[b] 225,000	[c] 324,400	[b] 30,000	[b] 35,000	[c] 41,900	[b] 300,000	[b] 240,000	[c] 257,700
Total Austria-Hungary	10,322,700	11,158,400	12,304,400	8,019,600	7,315,000	7,697,400	5,939,400	5,847,900	5,916,000
Belgium	603,000	445,700	402,500	691,000	700,200	659,700	99,300	99,400	94,400
Bulgaria	[b] 1,800,000	[d] 2,167,200	2,648,400	[b] 350,000	413,900	449,800	[b] 400,000	[d] 481,600	576,600
Denmark	127,700	89,400	101,200	680,000	715,200	674,300	756,400	696,900	656,600
Finland [b]	6,200	6,800	[e] 6,300	600,000	590,000	[e] 540,000	290,000	290,000	[e] 280,000
France	17,190,400	17,301,400	16,085,800	4,133,900	3,789,400	3,136,900	2,361,400	2,200,900	1,746,200
Germany	4,742,600	4,771,200	4,762,000	14,435,500	14,563,300	15,186,000	4,305,500	4,177,500	[f] 4,035,800
Greece	500,000	600,000	700,000	5,000	7,500	10,000	190,000	210,000	230,000
Italy	[g] 10,956,600	11,349,500	13,134,300	[g] 395,400	338,600	[b] 300,000	[g] 835,200	733,900	[b] 800,000
Netherlands	209,500	152,900	150,700	503,800	519,100	541,700	122,600	95,700	81,700
Norway	[h] 11,200	[i] 10,800	[j] 12,500	[h] 36,700	[i] 34,000	[j] 32,300	[h] 138,100	[i] 127,900	[j] 97,700
Portugal [b]	650,000	700,000	750,000	700,000	675,000	650,000	250,000	250,000	250,000
Roumania	[k] 2,903,700	3,553,400	4,838,900	[k] 570,800	537,600	398,300	[k] 1,371,200	1,365,600	1,306,000
Russia:									
European	[b] 35,400,000	38,872,400	56,928,700	[b] 69,700,000	67,719,900	70,406,700	[b] 14,500,000	18,153,600	23,742,200
Asiatic	[b] 1,700,000	3,360,700	5,279,600	[b] 1,300,000	2,646,600	2,420,300	[b] 200,000	416,900	464,400
Total Russia	37,100,000	42,233,100	62,208,300	71,000,000	70,366,500	72,827,000	14,700,000	18,570,500	24,206,600
Servia	[l] 783,500	[d] 691,300	919,600	[l] 147,800	[d] 91,900	117,500	[l] 227,600	[d] 185,200	266,300
Spain	[b] 8,400,000	7,855,900	8,879,200	[b] 1,900,000	1,488,000	1,854,200	[b] 3,000,000	2,429,300	3,336,200
Sweden	[b] 170,000	175,800	205,700	[b] 960,000	997,100	1,014,100	[b] 560,000	542,600	514,000
Switzerland	[m] 183,000	165,000	157,000	[m] 77,000	79,000	92,000	[m] 30,000	27,000	20,000
Turkey:									
European [b]	1,750,000	1,750,000	1,750,000	360,000	360,000	360,000	950,000	950,000	950,000
Asiatic [b]	2,250,000	2,250,000	2,250,000	340,000	340,000	340,000	550,000	550,000	550,000
Total Turkey	4,000,000	4,000,000	4,000,000	700,000	700,000	700,000	1,500,000	1,500,000	1,500,000

[a] In addition to the grains shown in this table, Kafir corn occupied 2,200 acres in Spain in 1897 and 3,400 acres in 1904, and einkorn 13,700 acres in Germany in 1885, 11,000 acres in 1895, and probably 10,000 acres in 1905. [b] Estimated. [c] 1906. [d] 1897. [e] 1904. [f] Spring barley. [g] 1883. [h] 1875. [i] 1890. [j] 1900. [k] 1886. [l] 1893. [m] 1888.

TABLE 4.—*Extent of area under the various grains, by countries, 1885, 1895, and 1905*[a]—Continued.

Country.	Wheat.			Rye.			Barley.		
	1885	1895	1905	1885	1895	1905	1885	1895	1905
United Kingdom	2,549,300	1,454,000	1,834,700	59,200	80,200	72,400	2,436,800	2,338,100	1,868,300
Grand total	103,209,400	108,881,800	134,101,500	105,965,700	104,001,500	106,953,600	39,513,500	42,170,000	47,783,000
Europe, not including Asiatic Russia and Asiatic Turkey	99,259,400	103,271,100	126,571,900	104,325,700	101,014,900	104,193,300	38,763,500	41,203,100	46,768,600
Northwestern (Teutonic)	11,553,100	9,900,200	10,414,900	22,971,600	22,755,300	23,677,100	11,621,000	11,344,600	10,584,400
Southwestern (Latin)	37,197,000	37,206,800	38,849,300	7,129,300	6,291,000	5,941,100	6,446,600	5,614,100	6,132,400
Eastern	50,509,300	56,164,100	77,307,700	74,224,800	71,968,600	74,575,100	20,695,900	24,244,400	30,051,800

Country.	Oats.			Corn.			Buckwheat.		
	1885	1895	1905	1885	1895	1905	1885	1895	1905
Austria-Hungary:	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Austria	4,519,600	4,817,600	4,467,600	908,500	859,400	861,100	543,900	473,800	421,000
Hungary	2,841,600	2,593,600	2,759,300	5,396,000	6,208,300	6,235,400	93,600	43,500	55,600
Bosnia-Herzegovina	[b] 190,000	140,000	[c] 271,700	[b] 600,000	[b] 800,000	[c] 711,300	[b] 7,000	[b] 3,000	[b] 2,000
Total Austria-Hungary	7,551,200	7,551,200	7,498,600	6,904,500	7,857,700	7,807,800	644,500	520,300	478,600
Belgium	616,000	614,500	586,500	.....	.....	.....	26,000	11,600	5,500
Bulgaria	[b] 300,000	[d] 311,300	429,000	[b] 900,000	[d] 1,100,000	1,168,700	[b] 100	[d] 100	.....
Denmark	1,027,400	1,081,700	1,057,100	.....	.....	.....	53,400	32,500	[e] 28,200
Finland [b]	460,000	650,000	730,000	.....	.....	.....	2,500	[f] 1,800	1,000
France	9,117,200	9,807,400	9,420,100	1,386,000	1,444,400	1,241,400	1,552,100	1,426,200	[g] 1,292,200
Germany	9,357,400	9,955,100	10,334,000	.....	.....	.....	534,900	385,000	[h] 346,900
Greece	23,000	37,000	50,000	180,000	220,000	250,000	.....	.....	.....
Italy	[i] 1,079,900	1,171,300	[b] 1,100,000	[i] 4,675,200	4,835,800	4,845,500	.....	.....	.....
Netherlands	283,100	323,700	325,800	.....	.....	.....	127,700	87,800	51,400
Norway	[j] 218,600	[k] 241,800	[l] 240,700	.....	.....	.....	.....	.....	.....
Portugal	200,000	200,000	200,000	1,100,000	1,100,000	1,100,000	.....	.....	.....
Roumania	[m] 560,700	668,500	921,000	[m] 4,234,400	4,560,300	4,882,200	[b] 3,000	[k] 3,200	2,700
Russia:									
European	[b] 37,800,000	37,118,400	42,169,700	[b] 1,800,000	2,296,800	3,501,300	[b] 10,350,000	6,059,400	5,403,700
Asiatic	[b] 1,100,000	2,252,900	3,094,100	.....	.....	14,500	[b] 50,000	110,800	123,200
Total Russia	38,900,000	39,371,300	45,263,800	1,800,000	2,296,800	3,515,800	10,400,000	6,170,200	5,526,900

Servia	[n] 261,800	[d] 247,300	258,200	[n] 1,314,100	[d] 1,107,900	1,365,300	[n] 6,500	[d] 4,500	[g] 4,200
Spain	[b] 440,000	653,600	1,119,400	[b] 900,000	793,800	1,148,900			
Sweden	[b] 1,890,000	2,044,600	2,030,800				[b] 1,000	[b] 600	[g] 400
Switzerland	[o] 136,000	135,000	137,000						
Turkey:									
European [b]	480,000	480,000	480,000	700,000	700,000	700,000			
Asiatic [b]	520,000	520,000	520,000	1,300,000	1,300,000	1,300,000			
Total Turkey	1,000,000	1,000,000	1,000,000	2,000,000	2,000,000	2,000,000			
United Kingdom	4,269,400	4,512,500	4,118,200						
Grand total	77,691,700	80,577,800	86,820,200	25,394,200	27,326,700	29,325,600	13,351,700	8,643,800	7,738,000
Europe, not including Asiatic Russia and Asiatic Turkey	76,071,700	77,804,900	83,206,100	24,094,200	26,026,700	28,011,100	13,301,700	8,533,000	7,614,800
Northwestern (Teutonic)	22,777,500	24,376,500	24,027,700	908,500	859,400	861,100	1,289,400	993,100	854,400
Southwestern (Latin)	10,837,100	11,832,300	11,839,500	8,061,200	8,174,000	8,335,800	1,552,100	1,426,200	1,292,200
Eastern	42,457,100	41,596,100	47,338,900	15,124,500	16,993,300	18,814,200	10,460,200	6,113,700	5,468,200

Country.	Spelt.			Maslin.			Millet.		
	1885	1895	1905	1885	1895	1905	1885	1895	1905
Austria-Hungary:	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Austria	16,100	11,600	11,800	51,600	65,900	58,500	199,100	162,800	157,500
Hungary	32,200	19,500	15,800	609,000	361,500	304,200	175,300	172,700	134,200
Bosnia-Herzegovina	[b] 60,000	[b] 50,000	[b] 40,000	40,000	30,000	[b] 25,000	40,000	50,000	[b] 40,000
Total Austria-Hungary	108,300	81,100	67,600	700,600	457,400	387,700	414,400	385,500	331,700
Belgium	114,000	83,700	69,000	58,000	45,600	28,800			
Bulgaria	[b] 35,000	[d] 39,300	[g] 37,600	[b] 150,000	[d] 156,200	[g] 250,700	[b] 30,000	[d] 37,100	25,800
Denmark				200,000	287,600	341,900			
Finland [b]				19,000	21,000	21,000			
France				817,800	637,200	371,400	121,600	120,500	64,400
Germany	925,500	839,400	[p] 823,800	[n] 789,500	834,900	[h] 840,800			
Greece				150,000	160,000	170,000			
Netherlands	700	400	600						
Norway				[j] 51,100	[k] 35,100	[l] 18,800			
Roumania							[l] 374,500	156,700	97,800

[a] In addition to the grains shown in this table, Kafir corn occupied 2,200 acres in Spain in 1897 and 3,400 acres in 1904, and einkorn 13,700 acres in Germany in 1885, 11,000 acres in 1895, and probably 10,000 acres in 1905. [b] Estimated. [c] 1906. [d] 1897. [e] 1903. [f] 1894. [g] 1904. [h] 1898. [i] 1883. [j] 1875. [k] 1890. [l] 1900. [m] 1886. [n] 1893. [o] 1888. [p] Winter spelt.

TABLE 4.—*Extent of area under the various grains, by countries, 1885, 1895, and 1905* [a]—Continued.

Country.	Spelt.			Maslin.			Millet.		
	1885	1895	1905	1885	1895	1905	1885	1895	1905
Russia:	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
European	[b] 900,000	1,036,300	1,194,900	.....	.....	.....	[b] 7,200,000	6,625,900	7,103,800
Asiatic	.....	11,600	11,100	.....	.....	.....	100,000	244,700	595,700
Total Russia	900,000	1,047,900	1,206,000	.....	.....	.....	7,300,000	6,870,600	7,699,500
Servia	[c] 45,500	[d] 19,700	15,500	.....	.....	.....	[c] 3,400	[d] 1,400	[e] 600
Spain	[b] 50,000	[b] 50,000	[e] 57,500	[b] 100,000	[b] 100,000	[e] 134,700	[b] 3,000	[d] 3,200	[e] 3,200
Sweden	.....	.....	.....	[b] 240,000	296,200	348,900	.....	.....	.....
Switzerland	[f] 153,000	132,000	128,000	[f] 9,900	10,200	10,400	.....	.....	.....
Grand total	2,332,000	2,293,500	2,405,600	3,285,900	3,041,400	2,925,100	8,246,900	7,575,000	8,223,000
Europe, not including Asiatic Russia and Asiatic Turkey	2,332,000	2,281,900	2,394,500	3,285,900	3,041,400	2,925,100	8,146,900	7,330,300	7,627,300
Northwestern (Teutonic)	1,209,300	1,067,100	1,033,200	1,419,100	1,596,500	1,669,100	199,100	162,800	163,200
Southwestern (Latin)	50,000	50,000	57,500	917,800	737,200	506,100	124,600	123,700	61,900
Eastern	1,072,700	1,164,800	1,303,800	949,000	707,700	749,900	7,823,200	7,043,800	7,402,200

[a] In addition to the grains shown in this table, Kafir corn occupied 2,200 acres in Spain in 1897 and 3,400 acres in 1904 and einkorn 13,700 acres in Germany in 1885, 11,000 acres in 1895, and probably 10,000 acres in 1905. [b] Estimated. [c] 1893. [d] 1897. [e] 1904. [f] 1888.

AVERAGE YIELD OF GRAIN.

WHEAT.

On comparing the area under wheat in northwestern Europe in 1905 with the average crop during 1901–1905, it appears that the average yield per acre exceeds 25 bushels; in southwestern Europe the average yield is only 16 bushels per acre and in eastern Europe but 12 bushels. For Europe as a whole the average yield is slightly under 14 bushels per acre.

It appears, therefore, that the average yield per acre is highest where wheat culture is least generally practiced and where the acreage under grain shows the smallest increase. In other words, the extension of the wheat area is most marked where the average yield per acre is lowest.

This condition holds true as regards individual countries as well as the larger divisions of Europe. The United Kingdom, Belgium, the Netherlands, and Denmark are at the same time the four countries in which the wheat acreage during the last twenty years has shown the largest reduction and the four countries which show the largest yield per acre. In each of these countries the acreage under wheat has fallen at least one-fifth in amount, while in each of them over 30 bushels per acre has been harvested on an average during the last five years.

At the other end of the series stands European Russia, in which the increase in acreage during the twenty years was no less than 60 per cent, while the average yield per acre was little more than 10 bushels.

Between these two extremes the relation pointed out between yield and acreage has been by no means so constant, but the divergence is not sufficiently marked to affect the general correspondence. In Sweden, for instance, the acreage under wheat has shown a considerable increase, while the average yield per acre is high, nearly 25 bushels per acre. On the other hand, in Spain the low average yield, 13 bushels per acre, has been accompanied by a small increase in the acreage and the crop.

That the extent of wheat culture should vary inversely as the average yield per acre, or, in other words, that where the results are best the smallest areas are devoted to wheat, seems at first sight paradoxical. It must be remembered that a high average yield, such as shown in the Teutonic countries of Europe, presupposes intelligence on the part of the farmers and valuable land justifying a large outlay of labor and capital. These conditions are much more favorable to the growth of crops requiring intensive cultivation than to grain crops, which give the highest profit when grown on new land on a large scale. Low average yields, if obtained at a low cost of

production, produce a greater aggregate profit than can be obtained from grain crops on the smaller tracts in northwestern Europe, where the high price of land necessitates its use in intensive culture. (See Table 5. This table contains unweighted averages of the yearly average yields shown later in the detailed tables.)

RYE.

The yield of rye is highest in Belgium, where during the five years 1901–1905 an average of 34 bushels per acre was obtained. After Belgium come Ireland, Denmark, the Netherlands, Norway, and Germany, in all of which an average yield of from 25 to 27 bushels per acre was obtained. The lowest average yield per acre during the same years was obtained in Servia, 10 bushels per acre, while in European Russia the average yield was slightly more than 10 bushels and in Spain 13 bushels per acre.

BARLEY.

Of barley, as of rye, the highest average yield per acre during the last five years was obtained in Belgium, in which more than 50 bushels per acre was grown on an average, while the average yield of winter barley alone was 52 bushels per acre. In the Netherlands the average yield was only slightly lower, amounting to 51 bushels per acre for winter barley and 48 bushels for barley of both kinds. Outside of these two countries barley is grown principally as a spring crop; and if that variety alone be considered, Ireland, with 42 bushels per acre, shows the highest average yield. In Germany, Denmark, and Great Britain the average yield per acre is 34 bushels. The lowest average yields per acre recorded are shown by the statistics of European Russia and Servia, according to which but 14 bushels per acre were raised during each of the five years under review.

OATS.

Belgium records an average yield of oats during the five years 1901–1905 of no less than 65 bushels per acre, while Ireland produced 57 bushels and the Netherlands 54 bushels. The smallest average yield per acre recorded is that of Servia, where only 15 bushels were obtained, and European Russia, with 20 bushels.

CORN.

The variations in the average yield per acre of corn are far less marked than the variations in the grains already considered. The almost total absence of its culture from any country included in the northwestern division eliminates the very countries where intensive culture is practiced. The highest yield recorded in 1901–1905 was $22\frac{1}{2}$ bushels per acre in Spain, while the lowest, between 13 and 14 bushels, was obtained in Roumania, Servia, and European Russia.

TABLE 5.—*Average annual yield of grain, by countries, and by five-year periods.*

Country.	Wheat.				Rye.				Barley.				Oats.				Corn.			
	1886–1890	1891–1895	1896–1900	1901–1905	1886–1890	1891–1895	1896–1900	1901–1905	1886–1890	1891–1895	1896–1900	1901–1905	1886–1890	1891–1895	1896–1900	1901–1905	1886–1890	1891–1895	1896–1900	1901–1905
Austria-Hungary:	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*
Austria	15.9	16.1	16.3	18.5	15.8	15.7	15.9	18.6	20.1	21.3	20.8	23.7	24.3	25.1	25.5	26.7	19.5	19.9	18.9	18.5
Hungary	17.6	19.1	16.7	17.9	15.6	16.9	16.3	17.6	17.9	21.8	22.1	22.5	20.6	25.7	30.1	30.1	18.5	23.2	22.6	19.3
Winter	17.9	19.3	16.8	18.0	15.7	17.0	16.4	17.7	18.2	20.9	20.9	22.3	.....	.....	.....	.....	.....	.....	.....	.....
Spring	12.6	14.8	13.0	13.2	13.0	14.9	13.8	13.6	17.9	21.9	22.2	22.5	.....	.....	.....	.....	.....	.....	.....	.....
Belgium:																				
Winter	27.1	27.8	29.7	} 34.0	25.4	28.9	30.1	34.0	{ 40.8	40.4	43.6	52.0	} 49.8	50.0	56.8	64.7	.....	.....	.....	.....
Spring	21.8	24.5	[a] 22.7						{ 33.6	33.7	35.8	41.0								
Denmark	35.8	38.7	41.0	40.2	24.6	26.7	25.8	26.8	29.7	30.4	30.9	34.0	32.0	33.8	35.5	35.9	.....	.....	.....	.....
France	17.8	17.7	19.3	20.2	16.4	17.9	17.1	16.8	21.9	21.5	22.5	24.0	30.2	28.7	30.1	32.0	19.3	19.1	19.0	19.4
Germany	20.3	23.3	27.0	28.2	16.0	19.9	23.0	24.9	24.0	28.9	[l] 30.7	.....	} 33.2	37.7	45.0	47.1	.....	.....	.....	.....
Winter	21.4	23.5	27.3	28.1	16.1	20.0	23.2	25.1	29.0	33.8	[l] 37.8	.....								
Spring	17.8	21.3	[a] 23.3	28.0	12.1	15.7	16.8	17.5	23.9	28.8	31.3	34.3								
Italy	[b] 12.1	11.2	[c] 12.8	13.1	[b] 12.7	12.3	.....	.....	[b] 13.4	10.8	[c] 13.2	.....	[b] 17.0	16.2	.....	.....	[b] 15.9	15.1	[c] 16.5	20.2
Netherlands	28.1	27.2	29.8	32.5	22.6	23.4	24.9	25.8	42.4	43.1	45.2	48.0	} 45.9	46.1	50.8	53.9	.....	.....	.....	.....
Winter	.....	[d] 28.0	29.8	32.4	.....	[d] 24.7	24.9	25.9	46.4	47.5	48.0	50.7								
Spring	.....	[d] 28.3	30.0	35.3	.....	[d] 20.8	20.3	22.8	34.7	35.7	38.1	40.8								
Norway	24.3	27.9	26.7	[e] 22.2	27.9	27.8	27.7	25.8	33.0	33.0	34.5	28.9	40.6	44.4	41.0	33.9	.....	.....	.....	.....
Roumania	15.3	16.2	13.1	18.3	13.8	16.1	13.4	18.7	13.3	17.0	13.7	18.5	18.0	18.5	16.0	23.0	14.4	14.6	14.6	13.3
Russia (total)	.....	[f] 10.3	8.7	10.3	.....	[f] 12.0	11.2	11.7	}	[f] 14.4	12.4	14.2	.....	[f] 20.8	18.9	20.0	.....	[f] 11.8	13.5	13.7
Winter	.....	[f] 12.9	10.6	13.9	.....	[f] 12.1	11.3	11.8												
Spring	.....	[f] 9.2	8.0	9.0	.....	[f] 10.2	9.4	9.5												
Russia, European	[g] 7.9	8.9	8.4	10.3	[g] 9.5	10.3	11.3	[h] 12.2	} [g] 11.0	13.7	12.3	14.2	[g] 15.1	17.7	18.6	20.0	.....	[m] 13.9	13.5	13.6
Winter	[g] 11.1	11.2	10.6	13.9	[b] 9.4	10.4	11.3	11.8												
Spring	[g] 6.8	7.9	7.5	8.8	[b] 4.8	8.0	8.2	8.9												
Servia	.....	[i] 11.1	[j] 13.9	12.6	.....	[i] 8.9	[j] 13.5	9.9	}	[i] 11.1	[j] 16.4	13.9	.....	[i] 12.5	[j] 24.9	14.7	.....	[i] 13.8	[j] 22.2	13.4
Winter	.....	[i] 11.4	[k] 15.2	[h] 12.8	.....	[i] 9.8	[k] 14.6	[h] 11.2												
Spring	.....	[i] 8.4	[k] 10.8	[h] 7.9	.....	[i] 6.8	[k] 13.1	[h] 8.2												
Spain	[b] 8.8	[d] 11.6	10.8	13.0	[b] 10.5	[g] 11.6	10.9	12.6	[b] 10.1	[f] 20.4	16.1	18.9	.....	[f] 15.3	18.0	20.5	[b] 24.3	[f] 21.4	19.1	22.5
Sweden	[b] 23.2	23.5	26.1	25.0	[b] 22.4	21.5	21.9	22.2	} [b] 27.0	25.0	25.2	24.6	[b] 32.0	29.8	28.1	27.7	.....	.....	.....	.....
Winter	[b] 23.4	23.7	26.5	25.3	[b] 22.5	21.6	22.0	22.3												
Spring	[b] 20.6	21.3	21.2	22.0	[b] 16.3	17.2	16.7	17.5												
United Kingdom	30.4	29.0	32.8	31.7	.....	.....	.....	.....	33.9	34.2	35.0	34.3	41.8	43.5	43.4	44.7	.....	.....	.....	.....
Great Britain	30.4	29.0	32.7	31.7	.....	.....	.....	.....	33.7	33.8	34.6	33.6	39.3	39.6	39.8	40.5	.....	.....	.....	.....
Ireland	27.9	30.7	32.0	34.6	24.1	26.2	24.8	27.1	36.4	39.7	40.2	42.2	47.6	53.3	53.0	56.7	.....	.....	.....	.....

[a] Average, 1896–1899. [b] 1890. [c] 1896. [d] Average, 1892–1895. [e] Average, 1902–1905. [f] Average, 1894–1895. [g] Average, 1888–1890. [h] Average, 1901–1904. [i] 1893. [j] Average, 1897–1900. [k] Average, 1897 and 1900. [l] Average, 1896–1898. [m] Average, 1893–1895.

AVERAGE SIZE OF HOLDINGS.

Belgium probably exemplifies best the intensive use of land. According to the agricultural returns for 1905, the average size of holdings that exceeded 1 hectare, or 2½ acres each, in extent was 15 acres. Those returns took no account of land cultivated in tracts of less than 1 hectare, but the census returns of 1895 showed that in that year there were 458,120 lots cultivated agriculturally, each not exceeding one-half hectare, or 1¼ acres in area, and that 85,921 plots were more than one-half hectare, but less than 1 hectare, in area. Estimating that the former averaged one-fourth of a hectare and that the latter averaged three-fourths of a hectare, the average size of the agricultural holdings is brought down to only about 5½ acres each. Only 554 farms in the Kingdom, comprising in all 4 per cent of the total farm area, contained as many as 250 acres each.

The statistics of various countries are by no means comparable with regard to the average size of holdings. According to the German census of 1895, the average size in that country of all tracts used agriculturally was 19 acres. Similar statistics for France show an average of 34 acres in 1892. In Great Britain large holdings are much more general; the average size[a] in 1905 was no less than 63 acres each. In the Netherlands, as in Belgium, intensive culture is general, but the statistics of agriculture do not show satisfactorily the average size of holdings. From the statistics of 1904 it appears that considerably more than half of the total number of holdings—leaving out of question holdings of less than 1 hectare in extent—averaged between 1 and 5 hectares each, or from 2½ to 12 acres. Unfortunately, the total area of these holdings can not be shown, and the most recent data giving the area of arable and grass land cultivated in tracts exceeding 1 hectare in area relate to 1887. According to these figures the average size of such holdings was about 25 acres each. It must be borne in mind, however, that a large number of very small plots is entirely neglected in this comparison, which, if they should be included, would considerably reduce the average size.

In Hungary, taking account of all agricultural holdings, the average size is even less than in the Netherlands, amounting to only 21 acres each. At the same time 45 per cent of the total land is held in tracts exceeding 100 hectares, or about 250 acres, and it is on large-sized farms that grain culture attains its greatest importance. On nearly 4,000 farms in Hungary, the aggregate area exceeds 18,000,000 acres, averaging 4,630 acres per farm. The data just given for Hungary are taken from the census of 1895.[b]

Taking account of both peasant lands and private estates in Russia[c] the average size of a holding in 1877, the latest year for which such

[a] Exclusive of holdings of 1 acre or less.

[b] Ungarische statistische Mittheilungen, new series, Vol. XXIV, p. 102.

[c] Russia's Wheat Surplus, by I. M. Rubinow, Bul. 42, Bureau of Statistics, pp. 36–41.

statistics are available, was 60 acres, slightly less than the average in Great Britain. The small size of the peasant holding, however, unduly reduces the average size of all holdings. In the peasant lands alone the average holding was only 32 acres per family, while private landholders own on an average 514 acres. Of the two kinds of land combined, more than 45 per cent was in holdings containing over 270 acres each, while 20 per cent of the total surface was in holdings exceeding 13,000 acres each.

According to statistics referring to 1895 and reprinted in the Report of the British Committee on Small Holdings in Great Britain, appointed by the Board of Agriculture and Fisheries, page 3, it appears that 58 per cent of the total acreage of arable, including grass, land is held in holdings of from 50 to 300 acres each. Smaller holdings ranging in size from 1 to 50 acres represent 15 per cent of the total area, while large holdings exceeding 300 acres represent 27 per cent of the total. Holdings of one acre or less were excluded; of these the number referred to was 579,133—not including holdings of less than ¼ acre, but embracing "allotments" of even a smaller area.

ACRE VALUE OF CROPS.

France is almost the only country of Europe which gives an estimate of the value of the various crops in its official statistics. From the statistics presented, covering the period of five years, 1900–1904, Table 6 is constructed. From that table it appears that the average value obtained from each acre planted to hops reached $153, while tobacco land yielded $93 per acre, land in flax $72 per acre, fresh beans and peas $62 per acre, and hemp $54 per acre. French vineyards produced wine valued on the average at $49 per acre, while an acre in sugar beets returned $47. Fodder beets, potatoes, oil seeds, and pulse all yielded a higher gross return on the average than an acre in grain. Taking the grains as a whole, the average gross return was only $18 per acre. Of the various grains wheat brought in the largest gross return, $21 per acre, maslin and barley between $16 and $17 per acre, corn and oats about $15.50 per acre, and rye and buckwheat between $12 and $13 per acre. The only land in crops that produced a smaller gross return than grain land was land sown in grasses, which, on the average, gave a gross return of $13 per acre during the period under review.

In the International Sugar Situation (Bulletin No. 30, Bureau of Statistics, p. 23), a comparison was made between the acre values of certain leading crops in Germany. This comparison showed that the gross return per acre of sugar beets in 1898–1902 averaged $55, while the average crop obtained from an acre of potatoes was worth $40, from an acre of wheat $29, and from an acre of rye $21. It appears, therefore, that while the average gross return per acre was but little higher in Germany than in France, the relative standing of the various crops differed but little. It should be borne in mind, however, that

the basis of comparison is somewhat different, since calculations for Germany are market prices, while the values officially returned by France are apparently farm values.

Data also exist for a similar comparison in the case of the Netherlands, where small-scale agriculture is general. In that country, as in France, the so-called industrial crops and potatoes yield the highest returns. The gross returns per acre in 1901–1905 averaged $213 for tobacco, $78 for flax, $74 for potatoes, and $52 for sugar beets, while the gross returns from grain culture averaged only $21 per acre. The average value per acre for winter barley was $30, exceeding by $4 the average value for wheat, $26, which was followed by oats and spring barley, with an average of $23 per acre; rye averaged $17 per acre, and buckwheat $15 per acre. The statistics just given for the Netherlands are the result of a calculation from official figures. Area and production are directly returned in the official reports, while the total value was calculated by means of the average price, in most instances officially published. The average price for each calendar year was applied to the crop harvested in that year.

A comparison for these three countries illustrates to some extent the intensive culture and consequent high gross returns per acre obtained in the Netherlands as compared with some other countries. Its chief importance is the clear indication of the inferiority of the grains as compared with many other crops in returns obtained from a given quantity of land. This factor is undoubtedly chiefly responsible for the much more rapid strides taken by grain farming in eastern than in western and, partly, northwestern Europe.

TABLE 6.—*Acre value of crops in* ***France,*** *average of 1900–1904.*

Crop.	Area.	Production.	Value.	Average value per acre.
	Acres.	*Pounds.*	*Dollars.*	*Dollars.*
Hops	7,112	7,071,986	1,087,941	152.97
Tobacco	41,963	51,164,647	3,894,065	92.80
Flax:				
Fiber	58,766	46,628,417	3,549,534	60.40
		Bushels.		
Seed		541,117	707,553	12.04
		Pounds.		
Beans and peas, fresh [a]	79,459	202,090,864	4,957,200	62.39
Hemp:				
Fiber	58,010	38,740,279	2,651,202	45.70
		Bushels.		
Seed		402,885	461,065	7.95
		Gallons.		
Vineyards [b]	4,017,214	1,452,776,815	196,746,934	48.98
		Tons.		
Sugar-beets [c]	734,480	8,541,162	34,141,122	46.57
Fodder-beets	1,334,287	13,216,290	47,330,964	35.47
		Bushels.		
Potatoes	3,671,407	436,062,441	119,569,481	32.57
		Pounds.		
Oil seeds	117,985	113,326,830	2,749,069	23.30
Pulse	666,477	551,436,810	12,292,241	18.44

[a] 1904.
[b] Not including area of vines not bearing, which amounted in 1900–1903 to an average of 419,098 acres.
[c] Including beets for distilling.

TABLE 6.—*Acre value of crops in* ***France****, average of 1900–1904*—Continued.

Crop.	Area.	Production.	Value.	Average value per acre.
Grain:	*Acres.*	*Bushels.*	*Dollars.*	*Dollars.*
Wheat	16,422,129	325,396,064	351,165,254	21.38
Maslin	435,335	7,959,161	7,204,737	16.55
Barley	1,777,637	42,059,264	29,008,346	16.32
Oats	9,556,816	299,030,064	149,173,933	15.61
Corn	1,279,065	24,000,802	19,832,083	15.51
Rye	3,327,680	54,848,389	42,603,490	12.80
Buckwheat	1,404,186	24,739,542	16,995,759	12.10
Total grain	34,202,848	778,033,286	615,983,602	18.01
		Tons.		
Grass lands	27,719,489	41,220,389	351,921,390	12.70

TABLE 7.—*Acre value of crops in the* ***Netherlands****, average of 1901–1905.*

Crop.	Area.	Production.	Value.	Average value per acre.
Grain:	*Acres.*	*Bushels.*	*Dollars.*	*Dollars.*
Wheat	141,680	4,573,237	3,714,588	26.22
Rye	537,362	13,876,353	9,160,948	17.05
Barley—				
Winter	60,518	3,069,257	1,812,225	29.95
Spring	22,647	924,523	519,491	22.94
Oats	342,934	18,494,426	8,011,177	23.36
Buckwheat	58,907	1,145,863	866,833	14.72
Total grain	1,164,048	42,083,659	24,085,262	20.69
Pulse:				
Beans	80,956	2,498,311	3,700,600	45.71
Peas	73,336	2,266,187	2,601,973	35.48
Total pulse	154,292	4,764,498	6,302,573	40.85
Potatoes	387,775	88,904,573	28,805,975	74.29
		Short tons.		
Sugar-beets	100,670	1,392,937	5,228,176	51.93
		Bushels.		
Colza, winter	8,273	272,419	322,590	38.99
Canary seed	2,123	67,537	109,846	51.74
		Pounds.		
Madder	198	250,593	13,570	68.54
Chicory	2,145	44,115,368	112,634	52.51
Flax:				
Fiber	35,487	19,381,273	2,200,702	62.01
		Bushels.		
Seed		406,359	576,230	16.24
		Pounds.		
Tobacco	1,072	2,249,449	121,316	213.17

DEFICIT IN WHEAT AND CORN PRODUCTION.

For its wheat and corn supply Europe is dependent largely on foreign countries. In 1901–1905, 12 per cent of the total wheat required was imported, and during the same period the average imports of corn amounted to 23 per cent of the total supply.

The average production of wheat in 1901–1905 showed an increase of 300,000,000 bushels as compared with the average for the preceding five years, but even this large increase did not prevent an increase of 25,000,000 bushels in the importation.

The deficit in home production is marked only in the northwestern, or Teutonic, division of Europe, where less than 40 per cent of the

total supplies was furnished by domestic agriculture. Comparing the average production in this division for 1886–1890 with that for 1901–1905, no important change is observed, the production for the earlier period being on an average 263,000,000 bushels and for the latter period 262,000,000 bushels. During the same time the net imports increased from an average of 235,000,000 to 424,000,000 bushels.

In southwestern Europe a small increase in production was accompanied by some decrease in the net imports. During the last five years the home production averaged 91 per cent of the total supplies. The great exporting division of eastern Europe shows an increase of over 325,000,000 bushels, comparing the average for 1886–1890 with that for 1901–1905. The increase in the surplus available for exportation was less marked, amounting only to 60,000,000 bushels during the twenty years under review. A large increase in the supply for food within the countries of production resulted, offset to some extent by the largely increased requirements for sowings. (See Table 8.)

The European situation in regard to corn differs materially from that respecting other grains. Its culture is confined closely to the southwestern and southeastern divisions by the nature of the plant. Importation from foreign countries showed a remarkable growth from 1891–1895 to 1896–1900. This increase resulted chiefly from an extended use of this grain for feeding purposes.

The production of corn in the Teutonic countries of Europe represented on the average in 1901–1905 only 8 per cent of the total supply; in the Latin division of Europe, 87 per cent of the supply was furnished by domestic agriculture; in eastern Europe the surplus for export exceeded the amount retained for local consumption by 24 per cent. (See Table 9.)

TABLE 8.—*Average annual* ***wheat*** *supply, production, and trade in* ***Europe,*** *by general divisions.*

Division and year.	Supply.	Production.		Net imports.	Net exports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*	*Bushels.*
Northwestern (Teutonic) Europe:					
1886–1890	498,372,000	263,247,000	52.8	235,125,000	.....
1891–1895	576,729,000	250,719,000	43.5	326,010,000	.....
1896–1900	609,687,000	269,192,000	44.2	340,495,000	.....
1901–1905	686,604,000	262,375,000	38.2	424,229,000	.....
Southwestern (Latin) Europe:					
1886–1890	605,391,000	526,039,000	86.9	79,352,000	.....
1891–1895	610,962,000	524,759,000	85.9	86,203,000	.....
1896–1900	617,093,000	562,232,000	91.0	54,861,000	.....
1901–1905	675,429,000	615,389,000	91.1	60,040,000	.....
Eastern Europe:					
1886–1890	459,206,000	633,620,000	138.0	.....	174,414,000
1891–1895	551,714,000	737,435,000	133.7	.....	185,721,000
1896–1900	561,527,000	731,967,000	130.4	.....	170,440,000
1901–1905	729,603,000	962,752,000	132.0	.....	233,149,000
Total Europe:					
1886–1890	1,562,969,000	1,422,906,000	91.0	140,063,000	.....
1891–1895	1,739,405,000	1,512,913,000	87.0	226,492,000	.....
1896–1900	1,788,307,000	1,563,391,000	87.4	224,916,000	.....
1901–1905	2,091,636,000	1,840,516,000	88.0	251,120,000	.....

TABLE 9.—*Average annual* ***corn*** *supply, production, and trade in* ***Europe,*** *by general divisions.*

Division and year.	Supply.	Production.		Net imports.	Net exports.
Northwestern (Teutonic) Europe:	*Bushels.*	*Bushels.*	*Per cent.*	*Bushels.*	*Bushels.*
1886–1890	114,310,000	17,740,000	15.5	96,570,000	.....
1891–1895	132,868,000	17,515,000	13.2	115,353,000	.....
1896–1900	247,382,000	15,770,000	6.4	231,612,000	.....
1901–1905	201,578,000	15,375,000	7.6	186,203,000	.....
Southwestern (Latin) Europe:					
1886–1890	169,205,000	144,680,000	85.5	24,525,000	.....
1891–1895	142,529,000	131,752,000	92.4	10,777,000	.....
1896–1900	173,841,000	143,997,000	82.8	29,844,000	.....
1901–1905	178,007,000	155,367,000	87.3	22,640,000	.....
Eastern Europe:					
1886–1890	228,839,000	277,892,000	121.4	.....	49,053,000
1891–1895	267,713,000	329,099,000	122.9	.....	61,386,000
1896–1900	299,893,000	354,146,000	118.1	.....	54,253,000
1901–1905	265,458,000	327,732,000	123.5	.....	62,274,000
Total Europe:					
1886–1890	512,354,000	440,312,000	85.9	72,042,000	.....
1891–1895	543,110,000	478,366,000	88.1	64,744,000	.....
1896–1900	721,116,000	513,913,000	71.3	207,203,000	.....
1901–1905	645,043,000	498,474,000	77.3	146,569,000	.....

TABLE 10.—*Average annual* ***rye*** *supply, production, and trade in* ***Europe,*** *by general divisions.*

Division and year.	Supply.	Production.		Net imports.	Net exports.
Northwestern (Teutonic) Europe:	*Bushels.*	*Bushels.*	*Per cent.*	*Bushels.*	*Bushels.*
1886–1890	498,567,000	435,246,000	87.3	63,321,000	.....
1891–1895	527,555,000	468,482,000	88.8	59,073,000	.....
1896–1900	575,771,000	500,031,000	86.8	75,740,000	.....
1901–1905	627,091,000	549,508,000	87.6	77,583,000	.....
Southwestern (Latin) Europe:					
1886–1890	99,456,000	98,074,000	98.6	1,382,000	.....
1891–1895	95,553,000	96,678,000	101.1	.....	1,125,000
1896–1900	94,144,000	92,847,000	98.6	1,297,000	.....
1901–1905	89,906,000	89,156,000	99.1	750,000	.....
Eastern Europe:					
1886–1890	745,324,000	815,963,000	109.5	.....	70,639,000
1891–1895	753,373,000	809,539,000	107.5	.....	56,166,000
1896–1900	808,998,000	877,654,000	108.5	.....	68,656,000
1901–1905	869,303,000	945,652,000	108.8	.....	76,349,000
Total Europe:					
1886–1890	1,343,347,000	1,349,283,000	100.4	.....	5,936,000
1891–1895	1,376,481,000	1,374,699,000	99.9	1,782,000	.....
1896–1900	1,478,913,000	1,470,532,000	99.4	8,381,000	.....
1901–1905	1,586,300,000	1,584,316,000	99.8	1,984,000	.....

RYE, BARLEY, AND OATS SELF-SUFFICING.

The rye production of Europe is practically commensurate with requirements; in the case of oats but 1 per cent and in the case of barley but 2 per cent of the total supply has to be imported.

The supplies of rye required by southwestern Europe are small compared with the wheat requirements; in eastern Europe the rye supply considerably exceeds the wheat supply, and in northwestern Europe is but little inferior to the wheat supply.

Little rye is imported into southwestern Europe, production just about sufficing for needs; the imports into northwestern Europe,

amounting to 78,000,000 bushels, or 12 per cent of the total supply, is just offset by the net exports from eastern Europe, which are equal to about 9 per cent of the quantity retained there for local use. (See Table 10.)

The situation of the various divisions of Europe with regard to oats is almost precisely the same as that in regard to rye, except that the quantity used in the northwestern countries is greater than that required in eastern Europe. As in the case of rye, the relatively small part of the requirements of the Teutonic division imported is about equal to the surplus available for exportation in eastern Europe. (See Table 11.)

The commercial movement of barley is much more important relative to the total production than that of rye or oats. The requirements of northwestern Europe necessitate an importation of 30 per cent of the total supply, and in the case of southwestern Europe 5 per cent, while the surplus for exportation in the eastern countries exceeds the supplies for local use by nearly 40 per cent.

This comparatively large movement of the grain, notwithstanding the equivalence in the whole continent between the production and the supply, is due mainly to the difference in grade. The use of barley for malting, for human food, and for animal feeding purposes results in a determination of peculiar grades, according to the use to which the particular grade is best suited. Commercial considerations require frequently the importation of a lower grade, even when the country produces an excess of barley of a higher grade. (See Table 12.)

TABLE 11.—*Average annual* ***oats*** *supply, production, and trade in* ***Europe,*** *by general divisions.*

Division and year.	Supply.	Production.		Net imports.	Net exports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*	*Bushels.*
Northwestern (Teutonic) Europe:					
1886–1890	897,265,000	833,554,000	92.9	63,711,000	.....
1891–1895	956,504,000	881,607,000	92.2	74,897,000	.....
1896–1900	1,046,766,000	927,718,000	88.6	119,048,000	.....
1901–1905	1,114,384,000	987,887,000	88.6	126,497,000	.....
Southwestern (Latin) Europe:					
1886–1890	325,088,000	308,100,000	94.8	16,988,000	.....
1891–1895	329,744,000	313,885,000	95.2	15,859,000	.....
1896–1900	345,848,000	330,254,000	95.5	15,594,000	.....
1901–1905	363,536,000	346,373,000	95.3	17,163,000	.....
Eastern Europe:					
1886–1890	681,957,000	761,486,000	111.7	.....	79,529,000
1891–1895	759,237,000	837,344,000	110.3	.....	78,107,000
1896–1900	861,943,000	937,450,000	108.8	.....	75,507,000
1901–1905	916,050,000	1,033,548,000	112.8	.....	116,498,000
Total Europe:					
1886–1890	1,904,310,000	1,903,140,000	99.9	1,170,000	.....
1891–1895	2,045,485,000	2,032,836,000	99.4	12,649,000	.....
1896–1900	2,254,557,000	2,195,422,000	97.4	59,135,000	.....
1901–1905	2,394,970,000	2,367,808,000	98.9	27,162,000	.....

TABLE 12.—*Average annual* ***barley*** *supply, production, and trade in* ***Europe,*** *by general divisions.*

Division and year.	Supply.	Production.		Net imports.	Net exports.
Northwestern (Teutonic) Europe:	*Bushels.*	*Bushels.*	*Per cent.*	*Bushels.*	*Bushels.*
1886–1890	380,137,000	309,835,000	81.5	70,302,000	.....
1891–1895	428,371,000	320,258,000	74.8	108,113,000	.....
1896–1900	435,224,000	320,681,000	73.7	114,543,000	.....
1901–1905	480,727,000	335,469,000	69.8	145,258,000	.....
Southwestern (Latin) Europe:					
1886–1890	115,395,000	110,958,000	96.2	4,437,000	.....
1891–1895	120,845,000	114,044,000	94.4	6,801,000	.....
1896–1900	116,458,000	111,035,000	95.3	5,423,000	.....
1901–1905	127,399,000	120,840,000	94.8	6,559,000	.....
Eastern Europe:					
1886–1890	235,924,000	306,453,000	129.9	.....	70,529,000
1891–1895	287,622,000	389,067,000	135.3	.....	101,445,000
1896–1900	289,458,000	385,957,000	133.3	.....	96,499,000
1901–1905	337,132,000	466,935,000	138.5	.....	129,803,000
Total Europe:					
1886–1890	731,456,000	727,246,000	99.4	4,210,000	.....
1891–1895	836,838,000	823,369,000	98.4	13,469,000	.....
1896–1900	841,140,000	817,673,000	97.2	23,467,000	.....
1901–1905	945,258,000	923,244,000	97.7	22,014,000	.....

PRODUCTION AND SUPPLY IN EUROPEAN COUNTRIES.

WHEAT.

On dividing the countries of Europe into importing and exporting countries, according to the average statistics for wheat (including flour) in 1901–1905, it appears that 17 of the 22 countries separately shown in this bulletin require to supplement the produce of their domestic agriculture with greater or less supplies from abroad, while only 5 countries produce an excess which enters into foreign trade. These 5 countries are all in eastern Europe. Among the importing countries are found all the countries of western Europe and 3 eastern countries—Greece, Turkey, and Bosnia-Herzegovina.

Among the countries that import a larger quantity of wheat (including flour as wheat) than they export, France comes nearest to being able to supply fully its own demand. The production in 1901–1905 averaged 97 per cent of the total supply. In the three earlier periods shown the net imports of France were larger, representing 11 per cent of the total supply in 1886–1890, 14 per cent in 1891–1895, and 6 per cent in 1896–1900, as compared with only 3 per cent in the last five years.

After France come Turkey, Spain, and Italy, in all of which domestic agriculture furnishes over three-fourths of the total supply, while in Portugal the contribution of domestic agriculture is 74 per cent. All of these countries, except Turkey, are in southwestern Europe.

In sharp contrast with these are Finland, in which only 4 per cent of the total requirements of wheat are produced within the

country, Norway with 10 per cent, Switzerland with 18 per cent, the Netherlands with 20 per cent, the United Kingdom with 21 per cent, and Belgium with 23 per cent. In these countries the dependence on foreign supplies has greatly increased during the 20 years under review. British agriculture in 1886–1890 furnished 35 per cent of the total domestic requirements, the average production having subsequently decreased from 75,000,000 bushels to 53,000,000, and the net imports having increased from 143,000,000 to 205,000,000 bushels. Belgian agriculture in 1886–1890 produced 42 per cent of its total supply, Dutch agriculture 34 per cent, Switzerland 24 per cent, Norway 18 per cent, and Finland 13 per cent.

In Germany and Austria, notwithstanding some increase in the domestic wheat production, the net imports have increased, respectively, from 16,000,000 to 71,000,000 bushels a year and from 26,000,000 to 49,000,000 bushels a year. While in 1886–1890 German agriculture furnished 87 per cent of the national supply, it furnished 64 per cent in 1901–1905; the contribution of Austrian agriculture fell during the same time from 63 to 50 per cent.

A comparison of the production and net imports of each European country which imports more wheat than it exports are given in Table 13. The statistics are given in the form of five-year averages based on detailed returns shown later in this bulletin and in Bulletin 69. In a few cases resort to unofficial estimate is necessary in order to render the table complete. In such cases the authority for the estimate is indicated under the country in the body of the bulletin.

A country is classified as an importing or an exporting country according to the average figures for the last five years, independent of its situation in earlier years. Among the exporting countries Russia stands first, both in total shipments abroad and in the increase in such shipments during the period under review, while Roumania stands first when a comparison is made between net exports and total production. Since 1886–1890 the net exports of Russia have increased more than 40,000,000 bushels, averaging 142,000,000 bushels during the five years 1901–1905. These shipments constituted 24 per cent of the total production, while in 1886–1890 the average net exports, although much smaller in amount, averaged 30 per cent. During the last five years Roumania exported 47 per cent of its total production, Bulgaria 37 per cent, Hungary 32 per cent, and Servia 24 per cent. The supply retained, however, in the country of production has increased materially in the case of each country shown in Table 14. This increase is offset to some extent by the larger requirements for planting, which have resulted from the extension of the wheat area.

TABLE 13.—***Wheat*** *supply, production, and trade in* ***importing*** *countries.*

ANNUAL AVERAGE, 1886–1890.

Country.	Total supply.	Production.		Net imports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
United Kingdom	218,851,000	75,422,000	34.5	143,429,000
Germany	124,902,000	109,007,000	87.3	15,895,000
Austria	71,636,000	45,357,000	63.3	26,279,000
Belgium	36,250,000	15,040,000	41.5	21,210,000
Italy	149,861,000	119,304,000	79.6	30,557,000
Netherlands	17,235,000	5,854,000	34.0	11,381,000
Switzerland	16,046,000	[a] 3,900,000	24.3	12,146,000
Spain	100,625,000	93,009,000	92.4	7,616,000
France	343,912,000	306,726,000	89.2	37,186,000
Sweden	6,778,000	3,990,000	58.9	2,788,000
Greece	12,028,000	6,100,000	50.7	[b] 5,928,000
Denmark	4,103,000	4,266,000	104.0	[c] 163,000
Turkey	76,846,000	[d] 75,000,000	97.6	1,846,000
Finland	1,121,000	147,000	13.1	974,000
Portugal	10,993,000	7,000,000	63.7	3,993,000
Norway	1,450,000	264,000	18.2	1,186,000
Bosnia-Herzegovina	2,336,000	2,086,000	89.3	[d] 250,000

ANNUAL AVERAGE, 1891–1895.

United Kingdom	236,446,000	58,825,000	24.9	177,621,000
Germany	155,858,000	118,134,000	75.8	37,724,000
Austria	83,242,000	43,874,000	52.7	39,368,000
Belgium	45,583,000	13,240,000	29.0	32,343,000
Italy	149,639,000	126,347,000	84.4	23,292,000
Netherlands	18,913,000	4,461,000	23.6	14,452,000
Switzerland	17,665,000	3,820,000	21.6	13,845,000
Spain	103,048,000	[e] 93,853,000	91.1	9,195,000
France	346,835,000	297,659,000	85.8	49,176,000
Sweden	9,493,000	4,129,000	43.5	5,364,000
Greece	11,278,000	6,700,000	59.4	4,578,000
Denmark	5,500,000	3,804,000	69.2	1,696,000
Turkey	78,462,000	[d] 75,000,000	95.6	3,462,000
Finland	1,763,000	132,000	7.5	1,631,000
Portugal	11,440,000	6,900,000	60.3	4,540,000
Norway	2,266,000	300,000	13.2	1,966,000
Bosnia-Herzegovina	3,319,000	2,819,000	84.9	[d] 500,000

ANNUAL AVERAGE, 1896–1900.

United Kingdom	239,741,000	64,113,300	26.7	175,628,000
Germany	176,910,000	132,126,000	74.7	44,784,000
Austria	85,910,000	42,856,000	49.9	43,054,000
Belgium	46,696,000	12,738,000	27.3	33,958,000
Italy	151,460,000	128,230,000	84.7	23,230,000
Netherlands	20,225,000	4,902,000	24.2	15,323,000
Switzerland	19,143,000	3,700,000	19.3	15,443,000
Spain	105,365,000	99,120,000	94.1	6,245,000
France	348,846,000	327,682,000	93.9	21,164,000
Sweden	10,157,000	4,786,000	47.1	5,371,000
Greece	12,850,000	7,300,000	56.8	5,550,000
Denmark	5,783,000	3,482,000	60.2	2,301,000
Turkey	79,963,000	[d] 75,000,000	93.8	4,963,000
Finland	2,594,000	154,000	5.9	2,440,000
Portugal	11,422,000	7,200,000	53.0	4,222,000
Norway	2,528,000	335,000	13.3	2,193,000
Bosnia-Herzegovina	3,166,000	2,316,000	73.2	850,000

[a] Average, 1888–1890.
[b] Average, 1887–1890.
[c] Net exports.
[d] Estimated.
[e] Average, 1892–1895.

TABLE 13.—*Wheat supply, production, and trade in* ***importing*** *countries*—Cont'd.

ANNUAL AVERAGE, 1901–1905.

Country.	Total supply.	Production.		Net imports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
United Kingdom	258,621,000	53,448,000	20.7	205,173,000
Germany	199,348,000	128,302,000	64.4	71,046,000
Austria	98,919,000	49,629,000	50.2	49,290,000
Belgium	58,311,000	13,446,000	23.1	44,865,000
Italy	199,520,000	162,677,000	81.5	36,843,000
Netherlands	22,681,000	4,619,000	20.4	18,062,000
Switzerland	21,359,000	3,840,000	18.0	17,519,000
Spain	128,459,000	117,458,000	91.4	11,001,000
France	336,697,000	327,254,000	97.2	9,443,000
Sweden	12,880,000	5,030,000	39.1	7,850,000
Greece	13,907,000	7,900,000	56.8	6,007,000
Denmark	8,289,000	3,663,000	44.2	4,626,000
Turkey	79,000,000	[a] 75,000,000	94.9	[a] 4,000,000
Finland	3,310,000	[b] 120,000	3.6	3,190,000
Portugal	10,753,000	8,000,000	74.4	2,753,000
Norway	2,886,000	278,000	9.6	2,608,000
Bosnia-Herzegovina	4,645,000	3,045,000	65.6	[a] 1,600,000

[a] Estimated. [b] Average 1901–1904.

TABLE 14.—*Wheat supply, production and trade in* ***exporting*** *countries.*

ANNUAL AVERAGE, 1886–1890.

Country.	Production.	Net exports.		Supply.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
Russia	[a] 334,000,000	100,883,000	30.2	233,117,000
Hungary	130,896,000	44,188,000	33.8	86,708,000
Roumania	48,377,000	26,344,000	54.5	22,033,000
Bulgaria	[a] 28,000,000	9,455,000	33.8	18,545,000
Servia	[b] 9,161,000	1,568,000	17.1	7,593,000

ANNUAL AVERAGE, 1891–1895.

Russia	[a] 397,000,000	105,808,000	26.7	291,192,000
Hungary	158,126,000	44,489,000	28.1	113,637,000
Roumania	57,064,000	28,753,000	50.4	28,311,000
Bulgaria	[a] 32,000,000	12,523,000	39.1	19,477,000
Servia	[c] 8,726,000	2,688,000	30.8	6,038,000

ANNUAL AVERAGE, 1896–1900.

Russia	417,728,000	103,648,000	24.8	314,080,000
Hungary	138,122,000	41,772,000	30.2	96,350,000
Roumania	49,765,000	23,676,000	47.6	26,089,000
Bulgaria	[a] 31,000,000	10,029,000	32.4	20,971,000
Servia	[d] 10,736,000	2,678,000	24.9	8,058,000

ANNUAL AVERAGE, 1901–1905.

Russia	591,930,000	141,437,000	23.9	450,493,000
Hungary	162,333,000	51,825,000	31.9	110,508,000
Roumania	75,874,000	35,805,000	47.2	40,069,000
Bulgaria	[a] 36,000,000	13,164,000	36.6	22,836,000
Servia	10,670,000	2,525,000	23.7	8,145,000

[a] Estimated. [b] 1889. [c] 1893. [d] Average, 1897–1900.

RYE.

The increase in the average production of rye during the twenty years under review is little more than half that of wheat. Comparing the average wheat crop in 1901–1905 with that in 1886–1890, an

increase of 418,000,000 bushels, or nearly 30 per cent, appears, while in the case of rye the corresponding increase was 236,000,000 bushels, or 18 per cent. As in the case of wheat, all of the countries of western Europe range themselves among the importing countries, while in addition one country of eastern Europe, Greece, appears. In the trade statistics of Bosnia-Herzegovina, rye is not separately recorded, the shipment of that product being undoubtedly extremely small; that country, consequently, does not strictly belong either to the importing or the exporting group. The remaining six countries show a net exportation of rye during the last five years.

Considering the importing countries, Spain and France produce more than 99 per cent of their rye supplies, while Portugal produces 98½ per cent. Three other countries grow more than 90 per cent of the rye they use. Norway, which grows only 7 per cent of its total supplies, Finland with 42 per cent, and the United Kingdom with about 46 per cent, are the only countries which obtain larger quantities of rye from foreign than from domestic sources.

Among the exporting countries Roumania alone exports a larger quantity of rye than it retains for its domestic use. The average net exports from that source in 1901–1905 represent about 72 per cent of the total crop. From Bulgaria 26 per cent of the crop was exported, from Hungary 20 per cent, and from Servia 14 per cent. Russia retained no less than 93 per cent of its total rye crop, shipping abroad only 7 per cent, while it exported nearly one-fourth of the entire crop of wheat. The cheaper price of rye is undoubtedly one reason for its entering into foreign trade only to a minor extent as compared with wheat. Its use is due principally to the fact that it can be grown in some regions more generally than wheat, and the exportation of any part of the crop is merely incidental.

TABLE 15.—*Rye supply, production, and trade in* ***importing*** *countries.*

ANNUAL AVERAGE, 1886-1890.

Country.	Total supply.	Production.		Net imports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
Germany	296,030,000	272,619,000	92.1	23,411,000
Finland	16,527,000	12,785,000	77.4	3,742,000
Netherlands	19,659,000	11,359,000	57.8	[a] 8,300,000
Norway	8,867,000	948,000	10.7	7,919,000
Austria	85,347,000	78,400,000	91.9	6,947,000
Denmark	20,323,000	17,060,000	83.9	3,263,000
Sweden	27,406,000	20,650,000	75.3	6,756,000
United Kingdom	3,254,000	[a] 1,832,000	56.3	1,422,000
Belgium	19,016,000	17,660,000	92.9	1,356,000
Switzerland	2,138,000	1,933,000	90.4	205,000
Italy	4,838,000	4,338,000	89.7	[a] 500,000
Portugal	7,510,000	7,500,000	99.9	[a] 10,000
France	66,072,000	65,258,000	98.8	[a] 814,000
Greece	140,000	60,000	42.9	[a] 80,000
Spain	21,036,000	20,978,000	99.7	[a] 58,000
Bosnia-Herzegovina	370,000	370,000	100.0	.....

[a] Estimated.

TABLE 15.—*Rye supply, production, and trade in* ***importing*** *countries*—Continued.

ANNUAL AVERAGE, 1891–1895.

Country.	Total supply.	Production.		Net imports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
Germany	323,292,000	305,233,000	94.4	18,059,000
Finland	18,622,000	11,587,000	62.2	7,035,000
Netherlands	20,627,000	11,642,000	56.4	8,985,000
Norway	8,825,000	945,000	10.7	7,880,000
Austria	82,498,000	74,796,000	90.7	7,702,000
Denmark	21,800,000	18,921,000	86.8	2,879,000
Sweden	26,148,000	21,267,000	81.3	4,881,000
United Kingdom	3,403,000	[a] 1,951,000	57.3	1,452,000
Belgium	20,192,000	20,180,000	99.9	12,000
Switzerland	2,148,000	1,960,000	91.2	188,000
Italy	4,559,000	4,329,000	95.0	[a] 230,000
Portugal	7,191,000	7,200,000	100.1	[b] 9,000
France	66,736,000	67,762,000	101.5	[b] 1,026,000
Greece	115,000	[a] 75,000	65.2	[a] 40,000
Spain	17,067,000	17,387,000	101.9	[b] 320,000
Bosnia-Herzegovina	495,000	495,000	100.0	.....

ANNUAL AVERAGE, 1896–1900.

Germany	360,975,000	338,277,000	93.7	22,698,000
Finland	22,370,000	12,328,000	55.1	10,042,000
Netherlands	21,888,000	13,155,000	60.1	8,733,000
Norway	11,217,000	895,000	8.0	10,322,000
Austria	83,648,000	71,316,000	85.3	12,332,000
Denmark	22,438,000	18,529,000	82.6	3,909,000
Sweden	26,397,000	22,161,000	84.0	4,236,000
United Kingdom	4,097,000	[a] 1,919,000	46.8	2,178,000
Belgium	20,453,000	19,411,000	94.9	1,042,000
Switzerland	2,288,000	2,040,000	89.2	248,000
Italy	4,492,000	4,200,000	93.5	292,000
Portugal	6,869,000	6,800,000	99.0	[a] 69,000
France	63,053,000	62,209,000	98.7	844,000
Greece	201,000	91,000	45.3	[a] 110,000
Spain	19,730,000	19,638,000	99.5	[a] 92,000
Bosnia-Herzegovina	370,000	370,000	100.0	.....

ANNUAL AVERAGE, 1901–1905.

Germany	386,939,000	371,864,000	96.1	15,075,000
Finland	25,273,000	[c] 10,614,000	42.0	14,659,000
Netherlands	24,989,000	13,877,000	55.5	11,112,000
Norway	11,877,000	833,000	7.0	11,044,000
Austria	96,771,000	85,799,000	88.7	10,972,000
Denmark	24,005,000	18,096,000	75.4	5,909,000
Sweden	26,979,000	22,505,000	83.4	4,474,000
United Kingdom	4,147,000	1,909,000	46.0	2,238,000
Belgium	23,481,000	21,731,000	92.5	1,750,000
Switzerland	2,630,000	2,280,000	86.7	350,000
Italy	4,137,000	3,800,000	91.9	337,000
Portugal	6,596,000	6,500,000	98.5	[a] 96,000
France	54,953,000	54,687,000	99.5	266,000
Greece	157,000	107,000	68.2	[a] 50,000
Spain	24,220,000	24,169,000	99.8	51,000
Bosnia-Herzegovina	327,000	327,000	100.0	.....

[a] Estimated. [b] Net exports. [c] Four-year average.

TABLE 16.—*Rye supply, production, and trade in exporting countries.*

ANNUAL AVERAGE, 1886–1890.

Country.	Production.	Net exports.		Supply.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
Russia	[a] 739,000,000	57,269,000	7.7	681,731,000
Hungary	46,636,000	5,738,000	12.3	40,898,000
Roumania	7,826,000	6,319,000	80.7	1,507,000
Bulgaria	[a] 6,000,000	1,220,000	20.3	4,780,000
Servia	[b] 1,071,000	132,000	12.3	939,000
Turkey	[a] 15,000,000	41,000	.3	14,959,000

ANNUAL AVERAGE, 1891–1895.

Russia	[a] 729,000,000	40,744,000	5.6	688,256,000
Hungary	50,404,000	7,864,000	15.6	42,540,000
Roumania	6,248,000	4,918,000	78.7	1,330,000
Bulgaria	[a] 7,000,000	2,025,000	28.9	4,975,000
Servia	[c] 1,317,000	302,000	22.9	1,015,000
Turkey	[a] 15,000,000	353,000	2.4	14,647,000

ANNUAL AVERAGE, 1896–1900.

Russia	802,622,000	54,353,000	6.8	748,269,000
Hungary	45,191,000	8,546,000	18.9	36,645,000
Roumania	6,924,000	4,718,000	68.1	2,206,000
Bulgaria	[a] 6,000,000	929,000	15.5	5,071,000
Servia	[d] 1,456,000	145,000	10.0	1,311,000
Turkey	[a] 15,000,000	75,000	.5	14,925,000

ANNUAL AVERAGE, 1901–1905.

Russia	866,355,000	59,650,000	6.9	806,705,000
Hungary	49,181,000	9,909,000	20.2	39,272,000
Roumania	6,644,000	4,785,000	72.0	1,859,000
Bulgaria	[a] 7,000,000	1,811,000	25.9	5,189,000
Servia	1,038,000	144,000	13.9	894,000
Turkey	[a] 15,000,000	[a] 100,000	.7	14,900,000

[a] Estimated. [b] 1889. [c] 1893. [d] Average, 1897–1900.

BARLEY.

The seven barley-exporting countries include one from the northwestern division of Europe—Austria; the other six are entirely in the eastern division. The importing countries which depend most largely upon foreign supplies are Switzerland, Belgium, the Netherlands, and Norway, in which from 18 to 36 per cent of the total supply is furnished by domestic agriculture, while the larger part is imported from foreign countries. In the United Kingdom somewhat over one-half of the total barley used, in Germany over two-thirds, and in all of the other importing countries more than 85 per cent of the total supply is home grown.

Among the exporting countries Roumania alone ships abroad more than one-half of its total crop, while Hungary, Bulgaria, and Russia export more than one-fourth. Servia exports about 16 per cent and Austria 15 per cent of the domestic crop.

TABLE 17.—*Barley supply, production, and trade in importing countries.*

ANNUAL AVERAGE, 1886–1890.

Country.	Total supply.	Production.		Net imports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
Germany	147,812,000	120,138,000	81.3	27,674,000
United Kingdom	115,934,000	78,108,000	67.4	37,826,000
Belgium	11,598,000	4,060,000	35.0	7,538,000
Netherlands	8,315,000	4,643,000	55.8	3,672,000
Norway	6,779,000	4,223,000	62.3	2,556,000
France	52,369,000	48,896,000	93.4	3,473,000
Switzerland	2,579,000	[a] 807,000	31.3	1,772,000
Denmark	20,028,000	21,862,000	109.2	[b] 1,834,000
Spain	49,726,000	49,405,000	99.4	[c] 321,000
Finland	6,460,000	6,076,000	94.1	384,000
Sweden	13,063,000	13,848,000	106.0	[b] 785,000
Italy	9,453,000	8,907,000	94.2	546,000
Greece	2,860,000	2,600,000	90.9	[c] 260,000
Bosnia-Herzegovina	3,255,000	3,243,000	99.6	[c] 12,000
Portugal	3,847,000	3,750,000	97.5	97,000

ANNUAL AVERAGE, 1891–1895.

Germany	170,728,000	128,902,000	75.5	41,826,000
United Kingdom	127,830,000	77,609,000	60.7	50,221,000
Belgium	12,825,000	4,020,000	31.3	8,805,000
Netherlands	11,466,000	4,427,000	38.6	7,039,000
Norway	8,105,000	4,220,000	52.1	3,885,000
France	57,365,000	51,617,000	90.0	5,748,000
Switzerland	2,994,000	736,000	24.6	2,258,000
Denmark	24,163,000	21,546,000	89.2	2,617,000
Spain	50,532,000	[d] 50,412,000	99.8	[c] 120,000
Finland	5,838,000	5,235,000	89.7	603,000
Sweden	13,797,000	13,616,000	98.7	181,000
Italy	9,147,000	8,265,000	90.4	882,000
Greece	2,940,000	2,800,000	95.2	[c] 140,000
Bosnia-Herzegovina	3,576,000	3,561,000	99.6	[c] 15,000
Portugal	3,801,000	3,750,000	98.7	51,000

ANNUAL AVERAGE, 1896–1900.

Germany	182,274,000	130,899,000	71.8	51,375,000
United Kingdom	121,355,000	76,037,000	62.7	45,318,000
Belgium	15,712,000	4,212,000	26.8	11,500,000
Netherlands	8,988,000	4,135,000	46.0	4,853,000
Norway	7,895,000	3,373,000	42.7	4,522,000
France	50,710,000	45,418,000	89.6	5,292,000
Switzerland	3,446,000	674,000	19.6	2,772,000
Denmark	21,182,000	21,362,000	100.8	[b] 180,000
Spain	52,167,000	52,367,000	100.4	[e] 200,000
Finland	5,962,000	5,217,000	87.5	745,000
Sweden	14,012,000	13,679,000	97.6	333,000
Italy	9,715 000	9,500,000	97.8	215,000
Greece	3,370,000	3,000,000	89.0	[c] 370,000
Bosnia-Herzegovina	3,433,000	3,358,000	97.8	[c] 75,000
Portugal	3,866,000	3,750,000	97.0	116,000

ANNUAL AVERAGE, 1901–1905.

Germany	208,444,000	143,439,000	68.8	65,005,000
United Kingdom	124,969,000	69,147,000	55.3	55,822,000
Belgium	18,187,000	4,654,000	25.6	13,533,000
Netherlands	13,593,000	3,994,000	29.4	9,599,000
Norway	8,394,000	2,990,000	35.6	5,404,000
France	46,917,000	42,043,000	89.6	4,874,000
Switzerland	3,596,000	640,000	17.8	2,956,000
Denmark	24,908,000	22,553,000	90.5	2,355,000
Spain	66,363,000	65,047,000	98.0	1,316,000
Finland	5,374,000	[f] 4,662,000	86.8	712,000
Sweden	13,281,000	12,983,000	97.8	298,000
Italy	10,280,000	10,000,000	97.3	280,000
Greece	3,390,000	3,200,000	94.4	[c] 190,000
Bosnia-Herzegovina	3,595,000	3,495,000	97.2	[c] 100,000
Portugal	3,839,000	3,750,000	97.7	89,000

[a] Average, 1888–1890.
[b] Net exports.
[c] Estimated.
[d] Average, 1894–1895.
[e] Net exports (estimated).
[f] Average, 1901—1904.

TABLE 18.—*Barley supply, production, and trade in exporting countries.*

Country.	Production.	Net exports.		Supply.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
ANNUAL AVERAGE, 1886–1890.				
Russia	[a] 190,000,000	46,172,000	24.3	143,828,000
Roumania	17,642,000	9,505,000	53.9	8,137,000
Hungary	47,464,000	14,112,000	29.7	33,352,000
Austria	56,070,000	8,501,000	15.2	47,569,000
Bulgaria	[a] 8,000,000	937,000	11.7	7,063,000
Turkey	[a] 35,000,000	30,000	.....	34,970,000
Servia	[b] 2,504,000	45,000	1.8	2,459,000
ANNUAL AVERAGE, 1891–1895.				
Russia	[a] 253,000,000	69,424,000	27.4	183,576,000
Roumania	23,569,000	13,797,000	58.5	9,772,000
Hungary	59,619,000	13,983,000	23.5	45,636,000
Austria	59,947,000	9,322,000	15.6	50,625,000
Bulgaria	[a] 9,000,000	1,363,000	15.1	7,637,000
Turkey	[a] 35,000,000	2,665,000	7.6	32,335,000
Servia	[c] 2,518,000	368,000	14.6	2,150,000
ANNUAL AVERAGE, 1896–1900.				
Russia	252,619,000	60,756,000	24.1	191,863,000
Roumania	20,366,000	11,823,000	58.1	8,543,000
Hungary	58,016,000	18,980,000	32.7	39,036,000
Austria	61,093,000	6,695,000	11.0	54,398,000
Bulgaria	[a] 10,000,000	1,254,000	12.5	8,746,000
Turkey	[a] 35,000,000	3,616,000	10.3	31,384,000
Servia	[d] 3,598,000	515,000	14.3	3,083,000
ANNUAL AVERAGE, 1901–1905.				
Russia	325,772,000	92,708,000	28.5	233,064,000
Roumania	23,312,000	14,096,000	60.5	9,215,000
Hungary	60,933,000	16,595,000	27.2	44,338,000
Austria	70,407,000	10,426,000	14.8	59,981,000
Bulgaria	[a] 12,000,000	3,187,000	26.6	8,813,000
Turkey	[a] 35,000,000	[a] 3,000,000	8.6	32,000,000
Servia	3,223,000	507,000	15.7	2,716,000

[a] Estimated. [b] 1889. [c] 1893. [d] Average, 1897–1900.

OATS.

Among the importing countries are ranged all of the countries of western Europe except Spain and, in addition, Greece. In Spain and in all of the eastern countries except Greece oats are produced in larger quantities than are required for domestic use.

All the importing countries except Switzerland grow a considerably larger quantity than they import. In the United Kingdom only one-fourth of the total supply is imported.

The use of this grain almost entirely as a feeding stuff, in view of the almost unlimited possibilities of substitution, doubtless partly explains the small extent to which this product enters into foreign trade. For successful stock raising the production, rather than the purchase, of the bulk of the feeding stuffs is necessary in order to insure adequate profits.

Slightly over one-half of the total crop of Roumania enters the export trade, one-third of the crop of Bosnia-Herzegovina, one-

fourth of the Bulgarian crop, and one-sixth of the crops of Servia and Hungary.

TABLE 19.—***Oats** supply, production, and trade in **importing** countries.*

ANNUAL AVERAGE, 1886–1890.

Country.	Total supply.	Production.		Net imports.
	Bushels	*Bushels.*	*Per cent.*	*Bushels.*
United Kingdom	230,616,000	177,142,000	76.8	53,474,000
Germany	393,030,000	381,342,000	97.0	11,688,000
Austria	117,786,000	112,224,000	95.3	5,562,000
France	294,890,000	280,049,000	95.0	14,841,000
Switzerland	9,361,000	[a] 6,267,000	66.9	3,094,000
Sweden	44,160,000	55,521,000	125.7	[b] 11,361,000
Belgium	32,804,000	30,640,000	93.4	2,164,000
Netherlands	12,058,000	13,185,000	109.3	[b] 1,127,000
Italy	19,144,000	17,077,000	89.2	2,067,000
Denmark	35,809,000	33,617,000	93.9	2,192,000
Norway	9,737,000	9,815,000	100.8	[b] 78,000
Finland	11,904,000	13,801,000	115.9	[b] 1,897,000
Portugal	3,510,000	3,500,000	99.7	[c] 10,000
Greece	620,000	500,000	80.6	[c] 120,000

ANNUAL AVERAGE, 1891–1895.

United Kingdom	244,055,000	189,279,000	77.6	54,776,000
Germany	415,102,000	401,094,000	96.6	14,008,000
Austria	125,548,000	117,399,000	93.5	8,149,000
France	297,291,000	281,438,000	94.7	15,853,000
Switzerland	10,092,000	5,780,000	57.3	4,312,000
Sweden	50,425,000	60,037,000	119.1	[b] 9,612,000
Belgium	33,663,000	30,760,000	91.4	2,903,000
Netherlands	15,774,000	15,299,000	97.0	475,000
Italy	18,819,000	18,319,000	97.3	500,000
Denmark	37,741,000	36,318,000	96.2	1,423,000
Norway	10,588,000	10,735,000	101.4	[b] 147,000
Finland	13,516,000	14,906,000	110.3	[b] 1,390,000
Portugal	3,532,000	3,500,000	99.1	[c] 32,000
Greece	710,000	650,000	91.5	[c] 60,000

ANNUAL AVERAGE, 1896–1900.

United Kingdom	243,991,000	180,683,000	74.1	63,308,000
Germany	493,498,000	446,668,000	94.3	26,830,000
Austria	135,240,000	119,567,000	88.4	15,673,000
France	306,988,000	292,853,000	95.4	14,135,000
Switzerland	12,420,000	6,280,000	50.6	6,140,000
Sweden	56,300,000	57,087,000	101.4	[b] 787,000
Belgium	38,955,000	35,315,000	90.7	3,640,000
Netherlands	19,520,000	16,288,000	83.4	3,232,000
Italy	19,842,000	18,000,000	90.7	1,842,000
Denmark	39,912,000	38,524,000	96.5	1,388,000
Norway	10,491,000	9,859,000	94.0	632,000
Finland	16,439,000	17,447,000	106.1	[b] 1,008,000
Portugal	3,520,000	3,500,000	99.4	20,000
Greece	960,000	800,000	82.5	[c] 160,000

ANNUAL AVERAGE, 1901–1905.

United Kingdom	249,986,000	187,146,000	74.9	62,840,000
Germany	520,671,000	494,294,000	94.9	26,377,000
Austria	137,765,000	121,097,000	87.9	16,668,000
France	317,877,000	303,115,000	95.4	14,762,000
Switzerland	13,731,000	6,420,000	46.8	7,311,000
Sweden	59,922,000	56,476,000	94.2	3,446,000
Belgium	44,206,000	41,157,000	93.1	3,049,000
Netherlands	21,466,000	18,495,000	86.2	2,971,000
Italy	20,309,000	17,800,000	87.6	2,509,000
Denmark	40,160,000	38,050,000	94.7	2,110,000
Norway	9,174,000	8,159,000	88.9	1,015,000
Finland	17,303,000	16,593,000	95.9	710,000
Portugal	3,607,000	3,500,000	97.0	107,000
Greece	1,020,000	950,000	93.1	[c] 70,000

[a] Average, 1888–1890. [b] Net exports. [c] Estimated.

TABLE 20.—*Oats supply, production, and trade in exporting countries.*

Country.	Production.	Net exports.		Supply.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
ANNUAL AVERAGE, 1886–1890.				
Russia	[a] 650,000,000	69,021,000	10.6	580,979,000
Hungary	57,760,000	6,165,000	10.7	51,595,000
Roumania	9,418,000	1,948,000	20.7	7,470,000
Bulgaria	[a] 7,000,000	296,000	4.2	6,704,000
Bosnia-Herzegovina	2,427,000	[a] 800,000	33.0	1,627,000
Turkey	[a] 30,000,000	1,035,000	3.4	28,965,000
Servia	[b] 4,381,000	384,000	8.8	3,997,000
Spain	[b] 7,474,000	[c] 70,000	.9	7,544,000
ANNUAL AVERAGE, 1891–1895.				
Russia	[a] 709,000,000	63,972,000	9.0	645,028,000
Hungary	73,655,000	7,113,000	9.7	66,542,000
Roumania	10,928,000	3,440,000	31.5	7,488,000
Bulgaria	[a] 7,000,000	424,000	6.1	6,576,000
Bosnia-Herzegovina	2,847,000	[a] 1,000,000	35.1	1,847,000
Turkey	[a] 30,000,000	1,477,000	4.9	28,523,000
Servia	[d] 3,264,000	741,000	22.7	2,523,000
Spain	[e] 10,628,000	[a] 526,000	4.9	10,102,000
ANNUAL AVERAGE, 1896–1900.				
Russia	800,017,000	54,995,000	6.9	745,022,000
Hungary	77,793,000	14,237,000	18.3	63,556,000
Roumania	11,388,000	3,085,000	27.1	8,303,000
Bulgaria	[a] 8,000,000	216,000	2.7	7,784,000
Bosnia-Herzegovina	3,488,000	[a] 1,200,000	34.4	2,288,000
Turkey	[a] 30,000,000	939,000	3.1	29,061,000
Servia	[f] 5,964,000	995,000	16.7	4,969,000
Spain	15,901,000	[a] 403,000	2.5	15,498,000
ANNUAL AVERAGE, 1901–1905.				
Russia	883,099,000	86,336,000	9.8	796,763,000
Hungary	81,887,000	14,163,000	17.3	67,724,000
Roumania	20,286,000	10,904,000	53.8	9,382,000
Bulgaria	[a] 10,000,000	2,333,000	23.3	7,667,000
Bosnia-Herzegovina	3,625,000	[a] 1,200,000	33.1	2,425,000
Turkey	[a] 30,000,000	[a] 1,000,000	3.3	29,000,000
Servia	3,701,000	632,000	17.1	3,069,000
Spain	21,958,000	215,000	1.0	21,743,000

[a] Estimated.
[b] 1889.
[c] Imports (estimated).
[d] 1893.
[e] Average, 1894–1895.
[f] Average, 1897–1900.

CORN.

Among the countries of northwestern Europe, Austria alone raises corn to any appreciable extent. That country in 1886–1890 produced on an average 18,000,000 bushels, and during the last five years 15,000,000 bushels. The decline has been much more than made up by imports from foreign countries, which have increased during the period under review from an average of 7,000,000 to an average of 16,000,000 bushels a year. The largest increase in the importation of this grain took place between 1890 and 1900.

The corn exporting countries are all situated in eastern Europe. Russia and Roumania occupy different positions in corn than in all other grain crops. Roumania exports the largest quantity, while Russia ships the largest proportion of its crop. The increase in both

production and exportation is much more marked in Russia than in any other country. Producing about 26,000,000 bushels a year during 1886–1890, the crops of Russia have increased until they amounted to about 45,000,000 bushels during the last five years. A large increase also appears in the case of Hungary, which increased its average crop from 102,000,000 to 122,000,000 bushels a year. Comparing the exports with the total crop, it appears that nearly one-half of the total production is exported by Russia and more than one-third by Roumania and Bulgaria.

TABLE 21.—*Corn supply, production, and trade in importing countries.*

Country.	Total supply.	Production.		Net imports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
ANNUAL AVERAGE, 1886–1890.				
United Kingdom	66,430,000	.....	.....	66,430,000
Germany	10,230,000	.....	.....	10,230,000
Austria	25,030,000	17,740,000	70.9	7,290,000
Belgium	5,892,000	.....	.....	5,892,000
Netherlands	3,000,000	.....	.....	[a] 3,000,000
Denmark	2,155,000	.....	.....	2,155,000
France	44,622,000	26,595,000	59.6	18,027,000
Italy	82,598,000	79,984,000	96.8	2,614,000
Switzerland	1,179,000	.....	.....	1,179,000
Spain	25,437,000	[a] 22,101,000	86.9	[a] 3,336,000
Bosnia-Herzegovina	7,019,000	6,819,000	97.2	[a] 200,000
Portugal	16,548,000	16,000,000	96.7	548,000
Norway	27,000	.....	.....	27,000
Sweden	329,000	.....	.....	329,000
Finland	38,000	.....	.....	38,000
Greece	4,000,000	3,900,000	97.5	[a] 100,000
ANNUAL AVERAGE, 1891–1895.				
United Kingdom	65,725,000	.....	.....	65,725,000
Germany	21,994,000	.....	.....	21,994,000
Austria	27,959,000	17,515,000	62.6	10,444,000
Belgium	5,768,000	.....	.....	5,768,000
Netherlands	6,597,000	.....	.....	6,597,000
Denmark	2,742,000	.....	.....	2,742,000
France	34,112,000	26,860,000	78.7	7,252,000
Italy	73,239,000	71,492,000	97.6	1,747,000
Switzerland	1,438,000	.....	.....	1,438,000
Spain	18,609,000	17,400,000	93.5	[a] 1,209,000
Bosnia-Herzegovina	10,056,000	9,756,000	97.0	[a] 300,000
Portugal	16,569,000	16,000,000	96.6	569,000
Norway	65,000	.....	.....	65,000
Sweden	406,000	.....	.....	406,000
Finland	174,000	.....	.....	174,000
Greece	4,250,000	4,200,000	98.8	[a] 50,000
ANNUAL AVERAGE, 1896–1900.				
United Kingdom	113,230,000	.....	.....	113,230,000
Germany	52,586,000	.....	.....	52,586,000
Austria	33,673,000	15,770,000	46.8	17,903,000
Belgium	11,954,000	.....	.....	11,954,000
Netherlands	16,373,000	.....	.....	16,373,000
Denmark	15,464,000	.....	.....	15,464,000
France	43,419,000	26,631,000	61.3	16,788,000
Italy	87,790,000	80,389,000	91.6	7,401,000
Switzerland	2,373,000	.....	.....	2,373,000
Spain	25,047,000	20,977,000	83.8	[a] 4,070,000
Bosnia-Herzegovina	10,277,000	9,677,000	94.2	[a] 600,000
Portugal	17,585,000	16,000,000	91.0	1,585,000
Norway	721,000	.....	.....	721,000
Sweden	747,000	.....	.....	747,000
Finland	261,000	.....	.....	261,000
Greece	4,540,000	4,400,000	96.9	[a] 140,000

[a] Estimated.

TABLE 21.—*Corn supply, production, and trade in importing countries*—Continued.

ANNUAL AVERAGE, 1901–1905.

Country.	Total supply.	Production.		Net imports.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
United Kingdom	93,078,000			93,078,000
Germany	37,385,000			37,385,000
Austria	31,557,000	15,375,000	48.7	16,182,000
Belgium	12,711,000			12,711,000
Netherlands	12,592,000			12,592,000
Denmark	10,573,000			10,573,000
France	34,924,000	24,388,000	69.8	10,536,000
Italy	99,624,000	90,394,000	90.7	9,230,000
Switzerland	2,468,000			2,468,000
Spain	26,540,000	24,585,000	92.6	1,955,000
Bosnia-Herzegovina	9,124,000	8,024,000	87.9	[a] 1,100,000
Portugal	16,919,000	16,000,000	94.6	919,000
Norway	649,000			649,000
Sweden	339,000			339,000
Finland	226,000			226,000
Greece	4,770,000	4,700,000	98.5	[a] 70,000

[a] Estimated.

TABLE 22.—*Corn supply, production, and trade in exporting countries.*

ANNUAL AVERAGE, 1886–1890.

Country.	Production.	Net exports.		Supply.
	Bushels.	*Bushels.*	*Per cent.*	*Bushels.*
Roumania	62,848,000	24,544,000	39.1	38,304,000
Russia	[a] 26,000,000	16,384,000	63.0	9,616,000
Bulgaria	[a] 18,000,000	2,959,000	16.4	15,041,000
Hungary	101,523,000	5,072,000	5.0	96,451,000
Servia	[b] 18,802,000	207,000	1.1	18,595,000
Turkey	[a] 40,000,000	187,000	.5	39,813,000

ANNUAL AVERAGE, 1891–1895.

Roumania	65,235,000	28,238,000	43.3	36,997,000
Russia	[a] 32,000,000	18,918,000	59.1	13,082,000
Bulgaria	[a] 21,000,000	5,536,000	26.4	15,464,000
Hungary	138,782,000	7,399,000	5.3	131,383,000
Servia	[c] 18,126,000	1,132,000	6.2	16,994,000
Turkey	[a] 40,000,000	513,000	1.3	39,487,000

ANNUAL AVERAGE, 1896–1900.

Roumania	71,975,000	26,303,000	36.5	45,672,000
Russia	37,765,000	16,078,000	42.6	21,687,000
Bulgaria	[a] 25,000,000	4,064,000	16.3	20,936,000
Hungary	138,656,000	7,856,000	5.7	130,800,000
Servia	[d] 26,673,000	725,000	2.7	25,948,000
Turkey	[a] 40,000,000	[e] 33,000	.1	40,033,000

ANNUAL AVERAGE, 1901–1905.

Roumania	68,908,000	26,786,000	38.9	42,122,000
Russia	45,493,000	22,586,000	49.6	22,907,000
Bulgaria	[a] 21,000,000	7,294,000	34.7	13,706,000
Hungary	122,076,000	6,191,000	5.1	115,885,000
Servia	17,531,000	387,000	2.2	17,144,000
Turkey	[a] 40,000,000	[a] 200,000	.5	39,800,000

[a] Estimated. [b] 1889. [c] 1893. [d] Average, 1897–1900. [e] Net imports.

PER CAPITA SUPPLY.

A comparison between the supplies of the various grains in each country (Tables 13 to 22) and their estimated population (Table 23) shows a general increase in the use of grain throughout the period.[a] The per capita supply of each grain is shown in Table 24. In using these tables it should be clearly understood that the figures are obtained in all cases simply by adding to the production the net imports of importing countries or subtracting from the production the net exports of exporting countries. The results obtained consequently include the amounts available for all uses within the country of production, including seed, the quantities consumed as human or animal food and used for industrial purposes. For but few countries is it possible to estimate with any degree of accuracy the quantities required for sowings, since the average quantity per acre required in various countries differs. In the absence of complete statistics in this regard, it seems best to show for all countries the supply, including the quantities kept for seed, in order to make the returns consistent throughout.

The tendency of the last twenty years has been in the direction of substituting wheat for rye as a bread grain. In 1901–1905 only seven countries of Europe used a larger quantity per capita of rye than wheat—Russia, Finland, Germany, the Netherlands, and the three Scandinavian countries. In 1886–1890 Austria belonged to this list, but during the intervening time its per capita supply of wheat increased by six-tenths of a bushel, while its rye supply slightly decreased in amount. If the per capita supply of the two bread grains be added, an increase during the period under review will be noted in nearly all cases. A decrease took place in six countries: France and Portugal, among the southwestern countries, and Turkey, Bulgaria, Greece, and Servia among the eastern countries. The differences in supply are very great. In Denmark the per capita supply in 1901–1905 averaged 13 bushels, in Belgium 12 bushels, and in Germany, France, and Finland 10. The United Kingdom came well down the list, showing a per capita supply of 6 bushels. In Bosnia-Herzegovina, Portugal, and Servia the average supply was less than $3\frac{1}{2}$ bushels per capita. Owing to the incomparability of the statistics of various countries, it is doubtful whether these tables possess any high degree of accuracy; the figures given should be taken simply as indicative in a general way of the differences existing.

[a] In absence of official statistics for some countries, the estimates in Sundbärg's Aperçus Statistiques Internationaux and the Statistical Abstract of the British Board of Trade were used.

TABLE 23.—*Population of countries of* ***Europe****, 1888–1903.*

Country.	Population June 30—			
	1888	1893	1898	1903
Austria	23,418,529	24,350,449	25,493,892	26,851,628
Hungary	17,031,240	17,779,476	18,738,579	19,789,127
Bosnia-Herzegovina	1,445,000	1,540,000	1,665,000	1,800,000
Belgium	6,002,393	6,228,814	6,628,162	6,940,649
Bulgaria	3,170,000	3,325,000	3,578,000	3,875,000
Denmark	2,143,000	2,226,000	2,371,000	2,519,000
Finland	2,296,160	2,445,668	2,622,678	2,798,658
France	38,290,000	38,380,000	38,800,000	39,140,000
Germany	48,168,000	50,757,000	54,406,000	58,576,000
Greece	2,190,000	2,325,000	2,465,000	2,600,000
Italy	29,825,022	30,875,678	31,926,334	33,088,725
Netherlands	4,478,401	4,701,243	5,039,418	5,389,082
Norway	1,976,615	2,037,796	2,173,807	2,284,928
Portugal	4,960,000	5,140,000	5,330,000	5,515,000
Roumania	4,960,298	5,304,995	5,801,266	6,104,589
Russia:				
European	98,240,000	102,870,000	108,540,000	118,410,000
Asiatic	15,520,000	17,490,000	19,350,000	20,740,000
Servia	2,052,192	2,225,938	2,398,950	2,599,046
Spain	17,620,000	17,900,000	18,270,000	18,820,000
Sweden	4,742,000	4,816,000	5,036,000	5,210,000
Switzerland	2,912,420	3,039,472	3,225,520	3,391,645
Turkey:				
European	5,400,000	5,700,000	5,900,000	6,130,000
Asiatic	15,400,000	15,900,000	16,400,000	16,900,000
United Kingdom	36,881,271	38,490,333	40,380,792	42,371,219

TABLE 24.—*Per capita supply of* ***grain****, by countries.*

Country.	Wheat.				Rye.			
	1886–1890	1891–1895	1896–1900	1901–1905	1886–1890	1891–1895	1896–1900	1901–1905
Austria-Hungary:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Austria	3.06	3.42	3.37	3.68	3.64	3.39	3.28	3.60
Hungary	5.09	6.39	5.14	5.58	2.40	2.39	1.96	2.02
Bosnia-Herzegovina	1.62	2.15	1.90	2.58	.26	.32	.22	.18
Total Austria-Hungary	3.84	4.58	4.04	4.42	3.02	2.87	2.63	2.83
Belgium	6.04	7.32	7.05	8.40	3.17	3.24	3.09	3.38
Bulgaria	5.85	5.86	5.86	5.89	1.51	1.50	1.42	1.34
Denmark	1.91	2.47	2.44	3.29	9.48	9.79	9.46	9.53
Finland	.49	.72	.99	1.18	7.20	7.61	8.53	9.03
France	8.98	9.04	8.99	8.61	1.73	1.74	1.63	1.40
Germany	2.59	3.07	3.25	3.40	6.15	6.37	6.63	6.61
Greece	5.49	4.85	5.21	5.35	.06	.05	.08	.06
Italy	5.02	4.85	4.74	6.03	.16	.15	.15	.13
Netherlands	3.85	4.02	4.01	4.21	4.39	4.39	4.34	4.64
Norway	.73	1.11	1.16	1.26	4.49	4.33	5.16	5.20
Portugal	2.22	2.23	2.14	1.95	1.51	1.40	1.29	1.20
Roumania	4.44	5.34	4.50	6.56	.30	.25	.38	.30
Russia	2.05	2.42	2.46	3.24	5.99	5.72	5.85	5.80
Servia	3.70	2.71	3.36	3.13	.46	.46	.55	.34
Spain	5.71	5.76	5.77	6.83	1.19	.95	1.08	1.29
Sweden	1.43	1.97	2.02	2.47	5.78	5.43	5.24	5.18
Switzerland	5.51	5.81	5.93	6.30	.73	.71	.71	.78
Turkey	3.69	3.63	3.59	3.43	.72	.68	.67	.65
United Kingdom	5.93	6.14	5.94	6.10	.09	.09	.10	.10

TABLE 24.—*Per capita supply of grain, by countries*—Continued.

Country.	Barley.				Oats.			
	1886–1890	1891–1895	1896–1900	1901–1905	1886–1890	1891–1895	1896–1900	1901–1905
Austria-Hungary:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Austria	2.03	2.08	2.13	2.23	5.03	5.16	5.30	5.13
Hungary	1.96	2.57	2.08	2.24	3.03	3.74	3.39	3.42
Bosnia-Herzegovina	2.25	2.32	2.06	2.00	1.13	1.20	1.37	1.35
Total Austria-Hungary	2.01	2.29	2.11	2.23	4.08	4.44	4.38	4.29
Belgium	1.93	2.06	2.37	2.62	5.47	5.40	5.88	6.37
Bulgaria	2.23	2.30	2.44	2.27	2.11	1.98	2.18	1.98
Denmark	9.35	10.85	8.93	9.89	16.71	16.95	16.83	15.94
Finland	2.81	2.39	2.27	1.92	5.18	5.53	6.27	6.18
France	1.37	1.49	1.31	1.20	7.70	7.75	7.91	8.12
Germany	3.07	3.36	3.35	3.56	8.16	8.18	8.70	8.89
Greece	1.31	1.26	1.37	1.30	.28	.31	.39	.39
Italy	.32	.30	.30	.31	.64	.61	.62	.61
Netherlands	1.86	2.44	1.78	2.52	2.69	3.36	3.87	3.98
Norway	3.43	3.98	3.63	3.67	4.93	5.20	4.83	4.02
Portugal	.78	.74	.72	.70	.71	.69	.66	.65
Roumania	1.64	1.84	1.47	1.51	1.51	1.41	1.43	1.54
Russia	1.26	1.53	1.50	1.68	5.11	5.36	5.83	5.73
Servia	1.20	.97	1.29	1.04	1.95	1.13	2.07	1.18
Spain	2.82	2.82	2.86	3.53	.43	.56	.85	1.16
Sweden	2.75	2.86	2.78	2.55	9.31	10.47	11.18	11.50
Switzerland	.89	.99	1.07	1.06	3.21	3.32	3.85	4.05
Turkey	1.68	1.50	1.41	1.39	1.39	1.32	1.30	1.26
United Kingdom	3.14	3.32	3.01	2.95	6.25	6.34	6.04	5.90

Country.	Corn.			
	1886–1890	1891–1895	1896–1900	1901–1905
Austria-Hungary:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Austria	1.07	1.15	1.32	1.18
Hungary	5.66	7.39	6.98	5.86
Bosnia-Herzegovina	4.86	6.53	6.17	5.07
Total Austria-Hungary	3.07	3.88	3.81	3.23
Belgium	.98	.93	1.80	1.83
Bulgaria	4.74	4.65	5.85	3.54
Denmark	1.01	1.23	6.52	4.20
Finland	.02	.07	.10	.08
France	1.17	.89	1.12	.89
Germany	.21	.43	.97	.64
Greece	1.83	1.83	1.84	1.83
Italy	2.77	2.37	2.75	3.01
Netherlands	.67	1.40	3.25	2.34
Norway	.01	.03	.33	.28
Portugal	3.34	3.22	3.30	3.07
Roumania	7.72	6.97	7.87	6.90
Russia	.08	.11	.16	.16
Servia	9.06	7.63	10.82	6.60
Spain	1.44	1.04	1.37	1.41
Sweden	.07	.08	.15	.07
Switzerland	.40	.47	.74	.73
Turkey	1.91	1.83	1.80	1.73
United Kingdom	1.80	1.71	2.80	2.20

IMPORT DUTIES ON GRAIN.

Grain and flour are admitted free of duty into Denmark, the Netherlands, and the United Kingdom. Russia likewise admits all grain free of duty, but imposes duties on flour, while in Belgium the same condition exists except that oats is subject to duty. Finland opens its ports to the free admission of all kinds of grain and flour, except corn.

The duties now in force in Austria-Hungary, Germany, France, Italy, and Spain vary from 35 to 42 cents per bushel on wheat imported

from countries enjoying the lowest rate of duty. In Germany the duty imposed on wheat imported from countries not enjoying the conventional rate is 49 cents per bushel, and in Austria-Hungary the corresponding rate is 41 cents per bushel. Somewhat lower than the rates imposed by these countries are the duties of Greece, Servia, and Sweden, in which the lowest rate of duty in force varies between 25 and 27 cents per bushel. In Roumania, Switzerland, Bulgaria, and Norway the conventional duty is from 3 mills to 4 cents per bushel. Turkey imposes an ad valorem duty of 8 per cent on grain and flour, as well as on most other grain products.

In Portugal the law in force has for its purpose the maintenance of a uniform level of prices and encouragement to the use of domestic wheat. In order to bring this about the importation of flour is prohibited generally, while wheat is admitted only in the quantities and at the rates of duty designated by governmental decree. The quantities so imported are apportioned among the various mills in accordance with certain fixed percentages officially determined, representing approximately the capacity of each mill. The mills must purchase domestic wheat at the official price in the same proportion. On December 30, 1905, a decree was issued authorizing the importation between January 15 and July 31, 1906, of about 2,500,000 bushels (70,000,000 kilograms) of wheat. Of this amount fixed quantities were to be used for the manufacture of macaroni, vermicelli, etc., and for the manufacture of zwieback. The wheat so imported was subjected to a duty of about 62 cents per bushel. The year before 1,600,000 bushels (48,000,000 kilograms) were admitted at 43 cents per bushel.

The tariff rates shown in Table 25 cover as nearly as possible the rates in force early in 1907. During the last twenty years the grain duties have been largely increased in various countries. In France the present level of duties was reached in 1894. In Germany the rates were successively advanced in 1885, 1887, and 1906, but in 1891, through the conclusion of treaties, the rates put into force in 1887 were somewhat reduced. Prior to 1879 the admission of grain into Germany was free of duty. In 1887 and in 1906 Austria-Hungary raised the duties imposed on grain. Imports from Servia, however, from 1887 to 1893 were admitted by special treaty at lower rates than those imposed in the case of any other country. In the United Kingdom grain and flour were subjected to duty from April 15, 1902, to June 30, 1903. The duty, however, was low, amounting only to 3 pence per hundredweight on grain and 5 pence per hundredweight on meal, flour, and malt. This is equivalent to about 3 cents per bushel of wheat or corn, and 2 cents per bushel of oats. On corn and corn meal for part of the period only one-half of the duty stated was imposed. In Italy the grain duties were

increased successively in 1887, 1888, 1894, and 1896, when the present rates went into effect. In Spain the duties imposed on grain were advanced in 1892, but in 1906, while the rates on flour were further advanced and the duty on wheat remained stationary, the rates on corn, rye, barley, and oats were slightly reduced. The duties on wheat and flour have been lowered from time to time in order to offset the temporary high domestic prices, the purpose being to keep prices within the Kingdom nearly stationary. (See Tables 26 to 30.)

The extremely high level of prices reached in 1898 caused France, Italy, and Spain to suspend for a time all duties on wheat.

The duties on rye are considerably lower than those imposed on wheat. The tariff on corn, barley, and oats is generally about the same for equal weights, but in Germany feeding barley is admitted from the "most favored nations" at less than half the rate levied on corn.

In general the duties on flour are higher than the duties on the corresponding quantity of wheat, so that it is found more profitable, as a rule, to import wheat in the form of grain than as flour.

TABLE 25.—*Current import duties on grain, flour, and malt,* ***by countries.***

Country.	Wheat.		Rye.		Barley.		Oats.		Corn.	
	General.	Conventional.	General.	Conventional.	General.	Conventional.	General.	Conventional.	General.	Conventional.
	Per bu.	*Per bu.*	*Per bu.*	*Per bu.*	*Per bu.*	*Per bu.*	*Per bu.*	*Per bu.*	*Per bu.*	*Per bu.*
Austria-Hungary	$0.414	$0.348	$0.361	$0.299	$0.177	$0.124	$0.177	$0.141	$0.206	$0.144
Belgium	Free.	.....	Free.	.....	Free.	.....	.084	.....	Free.	.....
Bulgaria	.026	.....	.024	.....	.084	.....	.014	.....	.024	.....
Denmark	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.
Finland	Free.	.....	Free.	.....	Free.	.....	Free.	.....	.122	.....
France	.368	.....	.147	.....	.126	.....	.084	.....	.147	.....
Germany	.486	.356	.423	.302	.363	[a].207	.242	.173	.302	.121
Greece	.302	.246	.281	.230	.165	.099	.080	.062	.192	.116
Italy	.394	.....	.221	.....	.168	.....	.112	.....	[b].368	.....
Netherlands	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.
Norway	.073	.044	.054	Free.	.117	.013	.078	.016	.054	Free.
Portugal	(c)	(c)	.439	.....	.376	.....	.251	.....	.494	.....
Roumania	.003	.....	.002	.....	.002	.....	.001	.....	.002	.....
Russia	Free.	.....	Free.	.....	Free.	.....	Free.	.....	Free.	.....
Servia	.263	.....	.245	.....	.126	.....	.084	.....	.122	.....
Spain	.420	.420	.196	.196	.168	.168	.112	.112	.110	.110
Sweden	.270	.....	.252	.....	.216	.....	Free.	.....	.252	.....
Switzerland	.....	.016	.....	.015	.....	.013	.....	.008	.....	.015
Turkey	8 p. ct.	.....	8 p. ct.	.....	8 p. ct.	.....	8 p. ct.	.....	8 p. ct.	.....
United Kingdom	Free.	.....	Free.	.....	Free.	.....	Free.	.....	Free.	.....

[a] For malting barley; for other, the conventional duty is 6.7 cents.
[b] For white corn; for other, the duty is 5.6 cents.
[c] Special regulations.

TABLE 25.—*Current import duties on grain, flour, and malt,* ***by countries***—Cont'd.

Country.	Wheat flour.		Rye flour.		Malt.		Oatmeal.		Corn meal.	
	General.	Conventional.	General.	Conventional.	General.	Conventional.	General.	Conventional.	General.	Conventional.
	Per bbl.	*Per bbl.*	*Per bbl.*	*Per bbl.*	*Per bu.*	*Per bu.*	*Per lb.*	*Per lb.*	*Per bbl.*	*Per bbl.*
Austria-Hungary	$2.707	.....	$2.707	.....	$0.169	.....	$0.014	.....	$2.707	.....
Belgium	.343	.....	.343	.....	.045	.....	.004	.....	.343	.....
Bulgaria	.858	.....	.858	.....	.446	.....	.004	.....	.858	.....
Denmark	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.
Finland	Free.	.....	Free.	.....	Free.	.....	Free.	.....	.643	.....
France	[a] 2.316	.....	.858	.....	.119	.....	.004	.....	.858	.....
Germany	3.967	$2.158	3.967	$2.158	[b] .376	[b] $0.211	.020	.....	3.967	$2.158
Greece	1.60	1.27	1.175	.639	1.119	.....	.060	$0.033	1.175	.639
Italy	1.973	.....	1.115	.....	.119	.....	.005	.....	[c] 1.630	.....
Netherlands	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.	Free.
Norway	.715	.477	.477	.119	.041	.209	.002	.001	.286	.071
Portugal	[d]	[d]	2.112	.....	.100	.....	.011	.....	2.112	.....
Roumania	1.544	.....	1.373	.....	.446	.....	.007	.....	1.373	.....
Russia	1.258	.....	1.258	.....	.218	.015	.006	.....	1.258	.....
Servia	2.059	.....	2.059	.....	[e] .149	.....	.011	.....	2.059	.....
Spain	2.402	2.402	1.373	1.373	.....	.....	.007	.007	1.373	1.373
Sweden	1.549	.....	1.549	.....	.207	.....	.008	.....	1.549	.....
Switzerland	.....	[f] .429	.....	[f] .429	.....	.024	.....	[f] .002	.....	[f] .429
Turkey	8 p. ct.	.....	8 p. ct.	.....	8 p. ct.	.....	8 p. ct.	.....	8 p. ct.	.....
United Kingdom	Free.	.....	Free.	.....	Free.	.....	Free.	.....	Free.	.....

[a] When rate of extraction is more than 60 per cent and less than 70 per cent. When extraction is not less than 70 per cent the duty is $1.89, and when not more than 60 per cent, $2.75.
[b] For barley malt; for malt from other grain the general duty is 40.4 cents, there being no conventional rate.
[c] For meal of white corn; for other kinds the duty is 54 cents.
[d] Special regulations.
[e] For barley malt; other, 19.4 cents.
[f] If in packages weighing not more than 11 pounds, 1.8 cents per pound.

TABLE 26.—*Changes in import duties on grain, flour, and malt in* ***France*** *since 1881.*

Article.	1881	1885	1887	1889	1890	1892	1894
Wheat, spelt, and maslin.....per bushel..	$0.032	$0.158	$0.263	$0.263	$0.263	$0.263	$0.368
Rye.....do....	Free.	.074	.074	.147	.147	.147	.147
Barley.....do....	Free.	.063	.063	.063	.063	.126	.126
Oats.....do....	Free.	.042	.084	.084	.084	.084	.084
Corn.....do....	Free.	Free.	Free.	Free.	.147	.147	.147
Buckwheat.....do....	Free.	Free.	Free.	Free.	Free.	.105	.105
Other.....	Free.	Free.	Free.	Free.	Free.	.....	.....
Malt.....per bushel..	.....	.057	.057	.057	.057	.119	.119
Meal and flour:							
Wheat, spelt, and maslin—							
Extraction not less than 70 per cent, per barrel.....	.205	1.030	1.373	1.373	1.373	1.373	1.887
Extraction 60 to 70 per cent, per barrel..						1.716	2.316
Extraction not more than 60 per cent, per barrel.....						2.059	2.745
Rye.....per barrel..	Free.	Free.	Free.	.858	.858	.858	.858
Corn.....do....	Free.	Free.	Free.	Free.	.858	.858	.858
Buckwheat.....per pound..	Free.	Free.	Free.	Free.	Free.	.004	.004
Other.....do....	Free.	Free.	Free.	Free.	Free.	.004	.004
Macaroni, vermicelli, etc.....do....	.005	.005	.007	.007	.007	.009	[a] .016

[a] Minimum rate 1.4 cents per pound.

TABLE 27.—*Changes in import duties on grain, flour, and malt in* ***Germany*** *since 1879.*

Article.	Prior to 1879	1879	1881	1885	1887	1891			1906	
						General.	Conventional.	Retaliatory.	General.	Conventional.
Spelt.....per bushel..	Free...	$0.039	$0.039	$0.117	$0.194	$0.194	$0.136	[a] $.291	[a] $.291	$0.214
Wheat.....do....	Free...	.065	.065	.194	.324	.324	.227	[a]. 486	[a]. 486	.356
Rye.....do....	Free...	.060	.060	.181	.302	.302	.212	[a]. 453	[a]. 423	.302
Oats.....do....	Free...	.035	.035	.052	.138	.138	.097	.207	[a]. 242	.173
Buckwheat.....do....	Free...	.026	.026	.052	.104	.104	.....	.155	.259	.....
Millet.....do....	Free...	.060	.060	.060	.060	.060	.....	.091	.091	.091
Barley.....do....	Free...	.026	.026	.078	.117	.117	.104	.174	[a]. 363	[b]. 207
Corn and dari.....do....	Free...	.030	.030	.060	.121	.121	.097	.181	.302	.181
Other grain...per 100 lbs..	Free...	.108	.108	.108	.108	.108	.....	.....	.162	.....
Malt.....per bushel..	Free...	.044	.044	.110	.147	.147	.132	.220	[a] [c]. 376	[c]. 211
Flour.....per barrel..	Free...	.423	.635	[a]1.587	[a]2.222	[a]2.222	[a]1.545	3.333	[a]3.967	[a]2.158

[a] Net weight.
[b] For other than malting barley the conventional rate is 6.7 cents per bushel.
[c] Duty on barley malt; for malt from other grain there is no conventional rate and the general duty is 40.4 cents per bushel.

TABLE 28.—*Changes in import duties on grain, flour, and malt in* ***Austria-Hungary*** *since 1887.*

Article.	June 1, 1882.	June 1, 1887.		1893.		March 1, 1906.	
		General.	From Servia.	General.	From Servia.	General.	Conventional.
Wheat.....per bushel..	$0.066	$0.197	$0.066	$0.197	$0.098	$0.414	$0.348
Rye.....do....	.031	.184	.031	.184	.092	.361	.299
Oats.....do....	.017	.052	.017	.052	.041	.177	.141
Barley.....do....	.026	.079	.026	.079	.026	.177	.124
Corn.....do....	.031	.061	.031	.061	.031	.206	.144
Wheat flour.....per barrel..	.643	1.607	.....	1.607	.....	2.707	.....
Rye flour.....do....	.643	1.607	.....	1.607	.....	2.707	.....
Oatmeal.....per 100 pounds..	.328	.820	.....	.820	.....	1.400	.....
Malt.....per bushel..	.045	.112	.....	.112	.....	.169	.....
Corn meal.....per barrel..	.643	1.607	.....	1.607	.....	2.707	.....

TABLE 29.—*Changes in import duties on grain, flour, and malt in* ***Italy*** *since 1883.*

Article.	1883	1887	1888	1894 [a]	1894 [a]	1896
Wheat.....per bushel..	$0.073	$0.158	$0.264	$0.368	$0.394	$0.394
Corn:						
White.....do....	.056	.056	.056	.056	.056	.368
Other.....do....						.056
Barley.....do....	.048	.048	.048	.048	.048	.168
Malt:						
For brewing.....do....	.034	.034	.034	.034	.034	.119
Other.....do....						
Rye.....do....	.056	.056	.056	.196	.226	.226
Oats.....do....	.032	.056	.112	.112	.112	.112
Other.....per 100 pounds..	.101	.101	.101	.101	.101	.101
Meal and flour:						
Wheat.....per barrel..	.475	1.029	1.493	1.973	2.110	2.110
White corn.....do....	.475	.480	.480	.480	.480	1.180
Rye.....do....						1.115
Barley.....do....						1.029
Oat.....per 100 pounds..	.242	.245	.245	.245	.245	.525
Other.....do....						.276
Semolina.....do....	.242	.700	.963	1.224	1.357	1.357
Macaroni, vermicelli, etc.....do....	.481	.481	1.050	1.313	1.401	1.401

[a] Two changes were made in 1894.

TABLE 30.—*Changes in import duties on grain, flour, and malt in* ***Spain*** *since 1882.*

Article.	August 1, 1882.		February 1, 1892.[a]	July 1, 1906.
	General.	Conventional.		
Wheat.....per bushel..	[b] $0.306	[b] $0.299	[c] $0.420	$0.420
Corn and rye.....do....	.157	.152	.216	.147
Barley.....do....	.134	.130	.185	.168
Oats.....do....	.090	.087	.123	.112
Meal and flour:				
Wheat.....per barrel..	[d] 1.498	[d] 1.416	[c] 2,265	2.402
Corn and rye.....do....	.824	.772	1.227	1.373
Other.....per 100 pounds..	.420	.394	.626	.700

[a] March 5, 1898, wheat and wheat-flour duty reduced to $0.315 per bushel and $1.716 per barrel, respectively; May 22 to August 15, 1898, duties suspended on wheat, rye, barley, and flour of those grains, and May 22 to September 15, 1898, on corn and corn meal, and exports prohibited. By order of March 14, 1904, while price of wheat exceeded $1.42 per bushel, the duty on wheat was reduced to $0.315 per bushel and on flour to $1.716 per barrel. By order of April 6, 1905, while price of wheat remained above $1.47 per bushel, the duty on wheat was further reduced to $0.210 per bushel and on flour to $1.201 per barrel.

[b] Including an extra duty of $0.079 per bushel.

[c] From February 21, 1895, to March 5, 1898, an extra duty of $0.131 per bushel of wheat and $0.707 per barrel of wheat flour was in force.

[d] Including an extra duty of $0.386 per barrel.

AUSTRIA-HUNGARY.

In the Austro-Hungarian monarchy, including the province of Bosnia-Herzegovina, the bulk of the grain acreage is in Hungary. In 1905 the total grain acreage in the dual monarchy amounted to 43,000,000 acres, comprising 25.5 per cent of the total land surface and 68 per cent of the total arable land. Hungary alone had over 24,000,000 acres in grain, or 30 per cent of its land surface and 72 per cent of its arable land. In Austria only 22 per cent of the total country was planted to grain, aggregating less than 17,000,000 acres, while in Bosnia-Herzegovina less than 2,000,000 acres, representing 14 per cent of the land surface, was planted to grain. During the twenty years from 1885 to 1905 the grain area decreased 440,000 acres in Austria, while in Hungary an increase of 2,200,000 acres and in Bosnia-Herzegovina one of 250,000 acres occurred.

AUSTRIA.

Austria is the most eastern part of the territory classed in this bulletin as northwestern Europe. Two provinces of Austria—Galicia and Bukowina—extend as far east as does Hungary, but the greater part of the Austrian territory is situated to the west; both in race and in agricultural conditions Austria as a whole belongs to the western rather than to the eastern division. These two provinces named furnished in 1905 about 44 per cent of the total Austrian acreage under wheat.

The acreage statistics of Austria are based on cadastral returns; for 1884–1900 the data were based on the cadaster of 1883; those for later years on the cadaster of 1896. For years prior to 1883 an older list was employed. For 1883 no statistics of acreage appeared in the agricultural returns.

For the leading crops the statistics of production are given both in units of weight and of capacity. As far as possible the former

have been used, but in the case of buckwheat and maslin throughout the period, of corn for 1883, and of spelt prior to 1888, the returns of production and average yield given in Table 31 are in bushels of capacity (Winchester bushels). Of the barley crop during the last five years, spring barley represented from 97 to 99 per cent of the total acreage; spring rye occupied about 6 per cent of the total acreage under rye, while in the case of wheat from 10 to 12 per cent of the total acreage was planted in the spring. Wheat is consequently grown principally and rye almost entirely as a winter crop. The statistics in Table 31 are derived from the annual returns of the Austrian Ministry of Agriculture as published in the Statistisches Jahrbuch.

TABLE 31.—*Grain production of* ***Austria****, 1883–1906.*

Year.	Wheat.			Rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	.....	36,910,000	.....	.....	65,524,000	.....
1884	2,735,600	42,444,000	15.5	4,896,900	73,800,000	15.1
1885	2,950,600	47,151,000	16.0	4,928,400	77,253,000	15.7
1886	2,900,800	43,559,000	15.0	4,970,100	74,036,000	14.9
1887	2,876,500	51,844,000	18.0	4,969,700	89,266,000	18.0
1888	2,930,000	51,020,000	17.4	4,979,200	80,385,000	16.1
1889	2,704,400	37,471,000	13.9	4,876,000	69,119,000	14.2
1890	2,835,000	42,893,000	15.1	4,941,600	79,193,000	16.0
1891	2,747,900	39,475,000	14.4	4,794,800	66,946,000	14.0
1892	2,780,400	49,575,000	17.8	4,865,800	82,748,000	17.0
1893	2,766,500	42,653,000	15.4	4,800,800	76,523,000	15.9
1894	2,713,000	47,333,000	17.4	4,822,000	82,873,000	17.2
1895	2,628,600	40,335,000	15.3	4,477,200	64,890,000	14.5
1896	2,615,800	41,754,000	16.0	4,537,800	73,782,000	16.3
1897	2,615,100	34,497,000	13.2	4,543,600	63,052,000	13.9
1898	2,609,300	46,890,000	18.0	4,513,600	79,687,000	17.7
1899	2,649,200	50,209,000	19.0	4,549,800	85,268,000	18.7
1900	2,632,400	40,929,000	15.5	4,206,000	54,792,000	13.0
1901	2,643,400	44,027,000	16.7	4,474,400	75,514,000	16.9
1902	2,614,100	49,655,000	19.0	4,527,300	82,482,000	18.2
1903	2,600,600	46,198,000	17.8	4,465,600	81,130,000	18.2
1904	2,754,900	53,734,000	19.5	4,760,200	91,685,000	19.3
1905	2,782,300	54,531,000	19.6	4,864,600	98,186,000	20.2
1906	2,880,400	58,149,000	20.2	4,997,200	99,211,000	19.9

Year.	Barley.			Oats.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	.....	46,602,000	.....	.....	105,116,000	.....
1884	2,655,600	52,511,000	19.8	4,532,900	119,744,000	26.4
1885	2,882,300	53,074,000	18.4	4,519,600	103,341,000	22.9
1886	2,762,600	54,858,000	19.9	4,616,300	125,926,000	27.3
1887	2,798,900	60,871,000	21.7	4,632,600	116,190,000	25.1
1888	2,795,800	60,209,000	21.5	4,630,900	116,344,000	25.1
1889	2,812,800	47,510,000	16.9	4,639,300	87,590,000	18.9
1890	2,757,600	56,904,000	20.6	4,630,100	115,070,000	24.9
1891	2,815,800	56,827,000	20.2	4,679,300	120,355,000	25.7
1892	2,747,000	64,843,000	23.6	4,628,700	124,522,000	26.9
1893	2,777,400	53,872,000	19.4	4,551,600	95,441,000	21.0
1894	2,806,900	62,691,000	22.3	4,643,400	120,830,000	26.0
1895	2,949,500	61,502,000	20.9	4,817,600	125,849,000	26.1
1896	2,911,200	56,346,000	19.4	4,737,500	110,164,000	23.3
1897	2,899,200	50,926,000	17.6	4,724,100	101,587,000	21.5
1898	2,886,000	63,486,000	22.0	4,697,900	128,773,000	27.4
1899	2,939,100	73,226,000	24.9	4,613,800	139,204,000	30.2
1900	3,049,500	61,480,000	20.2	4,692,100	118,105,000	25.2
1901	2,991,900	67,091,000	22.4	4,622,400	118,191,000	25.6
1902	3,005,000	73,788,000	24.6	4,528,000	125,473,000	27.7
1903	2,977,600	73,873,000	24.8	4,530,500	128,330,000	28.3
1904	2,926,300	66,815,000	22.8	4,501,500	109,611,000	24.3
1905	2,935,900	70,469,000	24.0	4,467,600	123,880,000	27.7
1906	2,909,900	75,951,000	26.1	4,529,200	154,355,000	34.1

TABLE 31.—*Grain production of* ***Austria****, 1883–1906*—Continued.

Year.	Corn.			Buckwheat.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[a]	*Bushels.*	*Acres.*	*Bushels.*[b]	*Bushels.*[b]
1883		20,189,000			6,841,000	
1884	895,300	16,428,000	18.3	599,600	6,418,000	10.7
1885	908,500	20,211,000	22.2	543,900	6,846,000	12.4
1886	895,900	19,279,000	21.5	507,500	5,762,000	11.6
1887	892,000	16,228,000	18.2	504,000	4,854,000	9.2
1888	897,300	16,686,000	18.6	504,600	6,147,000	12.9
1889	943,700	16,819,000	17.8	535,900	4,225,000	7.1
1890	919,000	19,689,000	21.4	490,100	4,478,000	9.6
1891	923,200	19,567,000	21.2	484,600	4,540,000	9.4
1892	907,800	19,761,000	21.8	477,200	4,422,000	9.3
1893	886,400	15,769,000	17.8	442,000	3,618,000	8.2
1894	806,000	13,686,000	17.0	449,900	4,690,000	10.4
1895	859,400	18,792,000	21.9	473,800	5,674,000	12.0
1896	854,600	17,650,000	20.7	437,400	5,140,000	11.7
1897	829,700	14,929,000	18.0	384,100	5,269,000	13.7
1898	841,500	16,415,000	19.5	382,000	5,816,000	15.2
1899	825,200	14,412,000	17.5	324,800	5,745,000	17.7
1900	827,800	15,446,000	18.7	404,300	6,125,000	15.1
1901	820,700	17,535,000	21.4	403,200	5,908,000	14.7
1902	819,200	13,462,000	16.4	403,400	4,037,000	10.0
1903	824,200	16,056,000	19.5	393,800	4,481,000	11.4
1904	836,200	12,529,000	15.0	386,800	4,905,000	12.7
1905	861,100	17,293,000	20.1	421,000	6,499,000	15.4
1906	836,200	17,312,000	20.7			

Year.	Spelt.			Maslin.			Millet.[c]		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[d]	*Bushels.*[d]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]
1883		284,000			993,000			3,182,000	
1884	15,900	315,000	19.8	51,800	1,118,000	21.6	186,400	2,791,000	15.0
1885	16,100	286,000	17.8	51,600	1,058,000	20.5	199,100	3,108,000	15.6
1886	17,300	299,000	17.3	51,300	898,000	17.5	181,300	2,647,000	14.6
1887	17,200	245,000	14.3	50,200	1,102,000	21.9	181,000	2,480,000	13.7
1888	17,000	251,000	14.7	52,000	1,181,000	22.7	177,100	2,727,000	15.4
1889	17,000	292,000	17.2	52,400	1,219,000	23.3	186,100	2,681,000	14.4
1890	17,200	350,000	20.4	52,900	1,610,000	30.4	176,900	2,744,000	15.5
1891	13,600	238,000	17.5	63,400	1,341,000	21.2	168,300	2,644,000	15.8
1892	13,600	274,000	20.1	54,100	1,213,000	22.4	171,000	2,725,000	15.9
1893	13,500	247,000	18.3	52,600	1,284,000	24.4	163,900	2,494,000	15.2
1894	13,000	235,000	18.0	53,600	1,338,000	25.0	161,800	2,255,000	13.9
1895	11,600	198,000	17.0	65,900	1,454,000	22.1	162,800	2,610,000	16.1
1896	12,200	152,000	12.4	54,000	1,302,000	24.1	177,600	3,040,000	17.1
1897	11,900	132,000	11.1	54,700	1,076,000	19.7	153,400	2,554,000	16.7
1898	11,800	149,000	11.8	57,600	1,209,000	21.0	154,400	2,641,000	17.1
1899	11,900	117,000	9.8	57,500	1,188,000	20.6	170,000	2,633,000	15.6
1900	11,500	109,000	9.5	57,100	1,367,000	23.9	166,700	2,428,000	14.6
1901	11,000	85,000	7.7	57,600	1,268,000	22.0	147,300	2,168,000	14.7
1902	10,700	79,700	7.5	63,500	1,399,000	22.0	150,700	2,213,000	14.7
1903	10,700	86,200	8.1	62,200	1,433,000	23.0	152,500	2,226,000	14.6
1904	10,800	65,900	6.1	63,900	1,222,000	19.1	168,100	2,189,000	13.0
1905	11,800	83,300	7.0	58,500	1,126,000	19.2	157,500	2,460,000	15.6

[a] In 1883 Winchester bushels.
[b] Winchester bushels.
[c] Including Kafir corn.
[d] Prior to 1888, Winchester bushels.

HUNGARY.

Throughout the period under review Hungary shows a large increase in grain acreage and production. The increase is most marked in the case of wheat, of which the acreage has increased from 6,400,000 acres in 1883 to 9,500,000 acres in 1906. During the same period the production has more than doubled, increasing from 91,000,000 bushels to 208,000,000 bushels. The 1905 and 1906 statistics are derived from the Pester Lloyd (September 6, 1905, September 1, 1906, and Abendblatt, January 14, 1907) and are stated

to be official in character. Statistics for earlier years are taken from the Annuaire Statistique Hongrois. Beginning with 1885 the data in all cases include Croatia-Slavonia, except when the contrary is indicated by footnote. The data for 1905 and 1906 will undoubtedly undergo revision before appearing in the Annuaire.

TABLE 32.—*Grain production of* ***Hungary,***[a] *1883–1906.*

Year.	Wheat.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]
1883	6,438,300	90,548,000	14.1	5,997,200	85,425,000	14.2	441,100	5,123,000	11.6
1884	6,797,800	107,216,000	15.8	6,357,900	101,561,000	16.0	439,900	5,655,000	12.9
1885	7,172,100	119,160,000	16.6	6,734,500	113,685,000	16.9	437,600	5,475,000	12.5
1886	7,229,800	108,202,000	15.0	6,823,500	103,563,000	15.2	406,300	4,639,000	11.4
1887	7,275,200	151,286,000	20.8	6,882,300	145,807,000	21.2	392,900	5,479,000	13.9
1888	7,277,500	141,825,000	19.5	6,876,800	135,884,000	19.8	400,700	5,941,000	14.8
1889	7,636,800	98,415,000	12.9	7,254,200	94,673,000	13.1	382,600	3,742,000	9.8
1890	7,824,300	154,753,000	19.8	7,463,400	150,040,000	20.1	360,900	4,713,000	13.1
1891	7,929,700	145,888,000	18.4	7,559,000	140,512,000	18.6	370,700	5,376,000	14.5
1892	8,085,800	149,626,000	18.5	7,716,300	144,264,000	18.7	369,500	5,362,000	14.5
1893	8,648,500	168,815,000	19.5	7,930,300	157,383,000	19.8	718,200	11,432,000	15.9
1894	8,483,900	154,424,000	18.2	8,106,100	148,909,000	18.4	377,800	5,515,000	14.6
1895	8,304,800	171,877,000	20.7	7,982,400	167,275,000	21.0	322,400	4,602,000	14.3
1896	8,311,200	161,221,000	19.4	8,010,600	156,880,000	19.6	300,600	4,341,000	14.4
1897	7,444,800	87,216,000	11.7	7,147,900	84,544,000	11.8	296,900	2,672,000	9.0
1898	8,160,100	139,635,000	17.1	7,835,400	135,220,000	17.3	324,700	4,415,000	13.6
1899	8,438,000	150,300,000	17.8	8,110,100	145,552,000	17.9	327,900	4,748,000	14.5
1900	8,807,000	152,236,000	17.3	8,509,400	148,213,000	17.4	297,600	4,023,000	13.5
1901	8,866,300	134,629,000	15.2	8,567,100	131,043,000	15.3	299,200	3,586,000	12.90
1902	8,950,300	182,901,000	20.4	8,650,200	178,617,000	20.6	300,100	4,284,000	14.3
1903	9,227,000	176,622,000	19.1	8,923,900	172,337,000	19.3	303,100	4,285,000	14.1
1904	9,131,300	146,920,000	16.1	8,839,300	143,355,000	16.2	292,000	3,565,000	12.2
1905	9,197,700	170,591,000	18.5	8,901,100	166,555,000	18.7	296,600	4,036,000	13.6
1906[c]	9,526,600	207,751,000	21.8						

Year.	Rye.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]
1883	2,714,900	40,114,000	14.8	2,621,600	38,676,000	14.8	93,300	1,438,000	15.4
1884	2,729,400	42,955,000	15.7	2,621,100	41,582,000	15.9	108,300	1,373,000	12.7
1885	3,061,200	44,884,000	14.7	2,947,300	43,427,000	14.7	113,900	1,457,000	12.8
1886	3,048,900	40,832,000	13.4	2,953,200	39,704,000	13.4	95,700	1,128,000	11.8
1887	3,035,300	54,362,000	17.9	2,937,400	52,858,000	18.0	97,900	1,504,000	15.4
1888	2,992,000	45,282,000	15.1	2,866,300	43,684,000	15.2	125,700	1,598,000	12.7
1889	2,931,900	39,439,000	13.5	2,805,000	38,077,000	13.6	126,900	1,362,000	10.7
1890	2,942,600	53,263,000	18.1	2,854,000	51,989,000	18.2	88,600	1,274,000	14.4
1891	2,798,500	39,507,000	14.1	2,702,700	38,227,000	14.1	95,800	1,280,000	13.3
1892	2,973,800	49,006,000	16.5	2,880,200	47,633,000	16.5	93,600	1,373,000	14.7
1893	3,269,400	58,466,000	17.9	3,040,700	54,682,000	18.0	228,700	3,784,000	16.5
1894	2,991,900	58,274,000	19.5	2,898,800	56,792,000	19.6	93,100	1,482,000	15.9
1895	2,802,800	46,768,000	16.7	2,721,600	45,646,000	16.8	81,200	1,122,000	13.8
1896	2,807,200	51,077,000	18.2	2,727,000	49,935,000	18.3	80,200	1,142,000	14.2
1897	2,691,300	36,220,000	13.5	2,609,500	35,304,000	13.5	81,800	916,000	11.2
1898	2,735,400	46,294,600	16.9	2,658,100	45,142,000	17.0	77,300	1,152,000	14.9
1899	2,816,400	49,873,000	17.7	2,736,400	48,683,000	17.8	80,000	1,190,000	14.9
1900	2,752,100	42,491,000	15.4	2,686,000	41,563,000	15.5	66,100	928,000	14.0
1901	2,795,000	43,657,000	15.6	2,730,700	42,809,000	15.7	64,300	848,000	13.2
1902	2,803,700	52,507,000	18.7	2,739,600	51,612,000	18.8	64,100	895,000	14.0
1903	2,801,700	50,740,000	18.1	2,735,700	49,787,000	18.2	66,000	953,000	14.4
1904	2,760,400	45,919,000	16.6	2,695,500	45,103,000	16.7	64,900	816,000	12.6
1905	2,790,900	53,081,000	19.0	2,725,500	52,178,000	19.1	65,400	903,000	13.8
1906[c]	[d]2,802,400	[d]54,371,000	19.4						

[a] Prior to 1885 exclusive of Croatia-Slavonia.
[b] Prior to 1893 Winchester bushels.
[c] Preliminary data.
[d] Including maslin in Hungary proper.

TABLE 32.—*Grain production of* ***Hungary,***[a] *1883–1906*—Continued.

Year.	Barley.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]
1883	2,402,600	39,298,000	16.4	133,400	2,206,000	16.5	2,269,200	37,092,000	16.3
1884	2,459,600	46,816,000	19.0	167,800	3,560,000	21.2	2,291,800	43,256,000	18.9
1885	2,757,100	56,927,000	20.6	317,900	6,293,000	19.8	2,439,200	50,634,000	20.8
1886	2,751,100	40,375,000	14.7	304,200	4,939,000	16.2	2,446,900	35,436,000	14.5
1887	2,650,100	57,963,000	21.9	298,500	6,287,000	21.1	2,351,600	51,676,000	22.0
1888	2,590,100	47,298,060	18.3	337,600	6,377,000	18.9	2,252,500	40,921,000	18.2
1889	2,645,800	36,343,000	13.7	330,000	4,728,000	14.3	2,315,800	31,615,000	13.7
1890	2,654,200	55,340,000	20.8	340,400	7,011,000	20.6	2,313,800	48,329,000	20.9
1891	2,739,300	56,875,000	20.8	330,100	6,609,000	20.0	2,409,200	50,266,000	20.9
1892	2,743,500	54,124,000	19.7	320,500	6,242,000	19.5	2,423,000	47,882,000	19.8
1893	2,749,600	67,179,000	24.4	349,100	7,288,000	20.9	2,400,500	59,891,000	24.9
1894	2,780,600	63,065,000	22.7	326,000	6,964,000	21.4	2,454,600	56,101,000	22.9
1895	2,658,400	56,854,000	21.4	307,900	6,947,000	22.6	2,350,500	49,907,000	21.2
1896	2,666,200	64,001,000	24.0	318,000	7,439,000	23.4	2,348,200	56,562,000	24.1
1897	2,507,300	44,104,000	17.6	288,900	4,323,000	15.0	2,218,400	39,781,000	17.9
1898	2,583,600	60,874,000	23.6	310,600	7,030,000	22.6	2,273,000	53,844,000	23.7
1899	2,681,400	64,323,000	24.0	315,300	7,023,000	22 3	2,366,100	57,300,000	24.2
1900	2,667,700	56,780,000	21.3	295,100	6,235,000	21.1	2,372,600	50,545,000	21.3
1901	2,680,800	53,122,000	19.8	287,700	5,776,000	20.1	2,393,100	47,346,000	19.8
1902	2,695,700	65,609,000	24.3	289,900	6,868,000	23.7	2,405,800	58,741,000	24.4
1903	2,746,800	68,416,000	24.9	284,000	7,222,000	25.4	2,462,800	61,194,000	24.8
1904	2,693,800	52,200,000	19.4	281,000	5,435,000	19.3	2,412,800	46,765,000	19.4
1905	2,722,400	65,317,000	24.0	274,900	6,373,000	23.2	2,447,500	58,944,000	24.1
1906[c]	2,769,800	72,753,000	26.3						

Year.	Oats.			Corn.			Spelt.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]	*Acres.*	*Bushels.*[b]	*Bushels.*[b]
1883	2,453,000	51,161,000	20.9	4,507,500	87,230,000	19.4	7,300	106,000	14.5
1884	2,457,800	57,088,000	23.2	4,585,300	90,341,000	19.7	9,500	148,000	15.6
1885	2,841,600	59,305,000	20.9	5,396,000	120,296,000	22.3	32,200	456,000	14.2
1886	2,876,400	59,853,000	20.8	5,502,400	97,508,000	17.7	28,900	439,000	15.2
1887	2,857,400	65,758,000	23.0	5,291,000	84,363,000	15.9	25,500	351,000	13.8
1888	2,846,300	60,264,000	21.2	5,398,900	108,331,000	20.1	23,100	319,000	13.8
1889	2,757,000	46,076,000	16.7	5,585,600	114,752,000	20.5	30,200	371,000	12.3
1890	2,692,600	56,851,000	21.1	5,589,000	102,660,000	18.4	25,000	324,000	13.0
1891	2,722,300	68,613,000	25.2	5,830,000	161,451,000	27.7	23,400	275,000	11.8
1892	2,714,700	65,908,000	24.3	6,031,000	131,998,000	21.9	23,700	296,000	12.5
1893	2,625,400	76,588,000	29.2	5,941,500	152,996,000	25.8	38,900	1,011,000	26.0
1894	2,664,600	80,287,000	30.1	5,898,000	82,698,000	14.0	28,100	444,000	15.8
1895	2,593,600	76,877,000	29.6	6,208,300	164,766,000	26.5	19,500	269,000	13.8
1896	2,546,700	80,037,000	31.4	6,049,200	149,549,000	24.7	19,100	328,000	17.1
1897	2,450,400	59,463,000	24.3	5,793,100	118,518,000	20.5	16,300	212,000	13.0
1898	2,587,300	85,730,000	33.1	6,191,900	148,204,000	23.9	17,800	312,000	17.5
1899	2,626,900	87,533,000	33.3	6,169,300	130,661,000	21.2	20,000	286,000	14.3
1900	2,672,700	76,201,000	28.5	6,396,100	146,348,000	22.9	15,900	227,000	14.3
1901	2,674,300	73,897,000	27.6	6,392,200	147,858,000	23.1	17,700	248,000	14.0
1902	2,679,400	89,108,000	33.3	6,287,800	119,801,000	19.1	16,400	245,000	15.0
1903	2,776,500	94,664,000	34.1	6,579,000	159,527,000	24.2	16,300	293,000	18.0
1904	2,703,700	67,682,000	25.0	5,828,600	70,764,000	12.1	16,600	153,000	9.2
1905	2,759,300	84,084,000	30.5	6,235,400	112,431,000	18.0	15,800	206,000	13.0
1906[c]	2,815,700	93,932,000	33.4	6,731,800	188,512,000	28.0			

[a] Prior to 1885 exclusive of Croatia-Slavonia.
[b] Prior to 1893 Winchester bushels.
[c] Preliminary data from Pester Lloyd, September 6, 1905, and February 10, 1906.

TABLE 32—*Grain production of* ***Hungary,***[a] *1883–1906*—Continued.

Year.	Maslin.[b]			Millet.[c]			Buckwheat.[c]		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[d]	*Bushels.*[d]	*Acres.*	*Bushels.*[d]	*Bushels.*[d]	*Acres.*	*Bushels.*[d]	*Bushels.*[d]
1883	478,000	7,211,000	15.1	85,800	1,352,000	15.8	42,800	618,000	14.4
1884	491,900	8,426,000	17.1	79,000	1,208,000	15.3	45,900	665,000	14.5
1885	609,000	9,876,000	16.2	175,300	2,451,000	14.0	93,600	1,193,000	12.7
1886	599,000	9,173,000	15.3	177,600	2,076,000	11.7	82,600	931,000	11.3
1887	618,000	11,532,000	18.7	178,900	1,790,000	10.0	73,600	817,000	11.1
1888	591,800	10,193,000	17.2	189,800	2,593,000	13.7	67,800	714,000	10.5
1889	582,400	7,855,000	13.5	191,800	2,590,000	13.5	71,300	795,000	11.1
1890	537,000	9,920,000	18.5	185,900	2,037,000	11.0	74,000	781,000	10.6
1891	520,800	8,678,000	16.7	200,000	3,111,000	15.6	71,000	737,000	10.4
1892	497,800	8,580,000	17.2	200,200	2,885,000	14.4	76,000	732,000	9.6
1893	568,800	9,476,000	16.7	196,800	2,728,000	13.9	64,000	736,000	11.5
1894	469,400	8,313,000	17.7	164,700	1,684,000	10.2	52,500	589,000	11.2
1895	361,500	6,554,000	18.1	172,700	2,189,000	12.7	43,500	431,000	9.9
1896	367,400	6,842,000	18.6	170,300	2,205,000	13.0	68,100	671,000	9.8
1897	350,800	3,829,000	10.9	165,100	1,931,000	11.7	62,000	629,000	10.1
1898	362,100	6,041,000	16.7	172,800	2,315,000	13.4	63,800	723,000	11.3
1899	362,900	6,048,000	16.7	166,900	1,788,000	10.7	61,800	578,000	9.3
1900	348,800	5,559,000	15.9	159,900	2,106,000	13.2	62,500	765,000	12.2
1901	354,100	5,549,000	15.7	164,300	1,933,000	11.8	62,000	826,000	13.3
1902	327,300	6,136,000	18.7	154,800	1,670,000	10.8	60,900	527,000	8.7
1903	313,100	5,819,000	18.6	145,300	1,936,000	13.3	56,900	674,000	11.8
1904	310,400	4,786,000	15.4	132,400	921,000	7.0	55,000	589,000	10.7
1905	304,200	5,344,000	17.6	134,200	1,372,000	10.2	55,600	624,000	11.2

Year.	Millet.						Buckwheat.					
	First crop.			Second crop.			First crop.			Second crop.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bush.*	*Bush.*	*Acres.*	*Bush.*	*Bush.*	*Acres.*	*Bush.*	*Bush.*	*Acres.*	*Bush.*	*Bush.*
1896	144,900	2,011,000	13.9	25,400	194,000	7.6	31,600	377,000	11.9	36,500	294,000	8.0
1897	140,700	1,692,000	12.0	24,400	239,000	9.8	28,200	329,000	11.6	33,800	300,000	8.9
1898	148,200	2,042,000	13.8	24,600	273,000	11.1	29,800	364,000	12.2	33,900	359,000	10.6
1899	144,200	1,587,000	11.0	22,700	201,000	8.8	27,500	282,000	10.3	34,300	296,000	8.6
1900	137,000	1,851,000	13.5	23,000	255,000	11.1	27,300	345,000	12.6	35,200	420,000	11.9
1901	141,900	1,686,000	11.9	22,400	247,000	11.0	26,000	341,000	13.1	36,000	485,000	13.5
1902	134,500	1,469,000	10.9	20,300	201,000	9.9	25,900	256,000	9.9	35,000	271,000	7.7
1903	126,100	1,710,000	13.6	19,200	226,000	11.8	24,200	306,000	12.6	32,700	368,000	11.3
1904	116,100	796,000	6.9	16,300	125,000	7.7	24,100	212,000	8.8	30,900	377,000	12.2
1905	118,500	1,229,000	10.4	15,700	143,000	9.1	24,500	277,000	11.3	31,000	347,000	11.2

[a] Prior to 1885 exclusive of Croatia-Slavonia.
[b] In 1906 3,618,000 bushels were produced on 173,700 acres in Hungary, exclusive of Croatia-Slavonia.
[c] Prior to 1896 exclusive of that grown as a second crop.
[d] Prior to 1893 Winchester bushels.

BOSNIA-HERZEGOVINA.

Official statistics of grain production in Bosnia-Herzegovina were first published for the year 1882. Complete statistics for the years 1882–1904 were transmitted by the Government of that country in a letter dated April 17, 1905, the figures for 1904 being preliminary. A subsequent statement from the same office is the source of the 1905 statistics. For 1906 the preliminary data given in Table 33 were obtained from the Pester Lloyd of September 1, 1906.

With the exception of 1906 no statistics of acreage under the various crops are available. From Die Landwirthschaft in Bosnien und der Hercegovina, 1899, pages 61 and 283, it is ascertained that in 1886 the arable land comprised 2,545,665 acres, and in 1895, 2,726,051 acres. The situation of Bosnia-Herzegovina and the methods of cul-

tivation are not dissimilar from those of Bulgaria. By assuming, first, that the total grain area in Bosnia-Herzegovina bears the same relation to the arable land as in Bulgaria[a] and, secondly, that the average yields of different grains vary in the same proportion in the two countries, a rough estimate of the acreage under each grain in Bosnia-Herzegovina has been calculated and is given in the summary tables. A similar method was used in calculating the 1905 acreage of spelt, millet, maslin, and buckwheat; for the other grains the statistics of acreage in 1906, as given in the Pester Lloyd, were inserted in Table 34.

It is to be noted that the average yield in Bosnia-Herzegovina is extremely low as compared with neighboring countries, but shows a considerable increase during the period under review, which covers nearly the entire period of Austro-Hungarian control.

TABLE 33.—*Grain production of* ***Bosnia-Herzegovina,*** *1882–1906.*

Year.	Wheat.	Spelt and emmer.	Rye.	Maslin.	Barley.	Oats.	Corn.	Millet.	Buck-wheat.	Kafir corn
	Bushels.	*Bushels.*	*Bush.*	*Bush.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bush.*	*Bush.*	*Bush.*
1882	1,598,000	594,000	335,000	224,000	2,165,000	1,555,000	4,584,000	472,000	95,600	.....
1883	1,315,000	544,000	275,000	255,000	2,039,000	1,460,000	3,517,000	301,000	65,500	.....
1884	1,800,000	599,000	343,000	376,000	2,560,000	2,178,000	3,989,000	259,000	58,000	.....
1885	1,691,000	590,000	304,000	403,000	2,809,000	2,446,000	5,295,000	337,000	81,300	.....
1886	1,685,000	639,000	268,000	428,000	3,330,000	2,662,000	5,491,000	347,000	60,900	.....
1887	2,160,000	712,000	330,000	425,000	3,522,000	2,893,000	5,439,000	275,000	33,100	.....
1888	2,073,000	602,000	296,000	349,000	3,151,000	2,163,000	6,321,000	460,000	51,900	.....
1889	1,559,000	618,000	356,000	326,000	2,648,000	1,628,000	7,598,000	583,000	44,600	2,600
1890	2,952,000	1,009,000	600,000	428,000	3,563,000	2,789,000	9,244,000	540,000	21,500	7,100
1891	2,621,000	931,000	442,000	429,000	3,375,000	2,997,000	9,623,000	562,000	19,100	11,500
1892	3,591,000	1,072,000	552,000	463,000	3,527,000	2,677,000	10,593,000	710,000	38,900	39,100
1893	2,468,000	865,000	510,000	500,000	3,629,000	2,392,000	10,864,000	714,000	57,500	53,500
1894	2,789,000	752,000	491,000	460,000	3,856,000	3,636,000	7,549,000	400,000	26,600	43,600
1895	2,627,000	690,000	480,000	451,000	3,419,000	2,532,000	10,149,000	540,000	27,900	66,600
1896	2,459,000	657,000	425,000	463,000	3,663,000	2,720,000	11,006,000	747,000	51,600	103,000
1897	1,484,000	411,000	316,000	370,000	2,904,000	3,063,000	8,238,000	600,000	67,200	149,000
1898	2,297,000	492,000	405,000	479,000	3,632,000	4,286,000	11,798,000	735,000	93,600	145,000
1899	3,017,000	547,000	413,000	437,000	3,699,000	4,611,000	8,520,000	372,000	55,700	70,300
1900	2,322,000	397,000	291,000	320,000	2,893,000	2,759,000	8,822,000	471,000	70,700	99,800
1901	2,170,000	457,000	250,000	355,000	3,327,000	2,658,000	9,800,000	450,000	71,900	141,000
1902	2,384,000	434,000	257,000	353,000	3,208,000	3,001,000	5,863,000	274,000	25,500	66,400
1903	3,901,000	611,000	396,000	471,000	4,145,000	5,612,000	8,411,000	272,000	21,600	90,300
1904	3,753,000	668,000	360,000	411,000	3,496,000	3,829,000	6,464,000	142,000	18,300	82,400
1905	3,016,000	541,000	374,000	371,000	3,298,000	3,026,000	9,584,000	256,000	21,300	105,000
1906[a]	2,693,000	.....	395,000	.....	3,606,000	3,836,000	9,862,000	.....	.....	.....

[a] Preliminary.

TABLE 34.—*Estimated acreage of the various grains in* ***Bosnia-Herzegovina,*** *1886, 1895, and 1906.*

Grain.	1886	1895	1906
	Acres.	*Acres.*	*Acres.*
Corn	600,000	800,000	711,300
Wheat	200,000	225,000	324,400
Barley	300,000	240,000	257,700
Oats	190,000	140,000	271,700
Spelt	60,000	50,000	[b] 40,000
Millet	40,000	50,000	[b] 40,000
Rye	30,000	35,000	41,900
Maslin	40,000	30,000	[b] 25,000
Buckwheat	7,000	3,000	[b] 2,000

[a] In Bulgaria in 1897 fallow land constituted 37 per cent of the total arable land, and the cereals occupied 96 per cent of the cultivated arable land.

[b] Calculated area in 1905; no corresponding statistics appear in the report of the Hungarian Minister of Agriculture.

BELGIUM.

Belgian agriculture is marked by small holdings, intensive cultivation, and decreasing grain acreage. Between 1885 and 1905 the total acreage in grain decreased from 2,200,000 to 1,800,000 acres, or from 30 to 25 per cent of the total surface of the country. The decrease in wheat acreage was particularly marked. From nearly 700,000 acres in 1880, the surface devoted to wheat fell by 1905 to about 400,000 acres, while during the same period the production decreased from 18,000,000 to 12,500,000 bushels.

The agricultural statistics of Belgium are by no means complete, and no definite official estimate of the crops prior to 1900 is obtainable. In 1880 and 1895, it is true, an agricultural census was taken showing the area devoted to each of the leading crops, but no statistics of production were gathered. For each year the average yield per acre was estimated by provincial commissions of agriculture and published in the official Bulletin de l'Agriculture. These estimates were adopted by the census officials as the average yield in each province for a period of ten years ending with the census year. These averages were applied to areas returned and the normal production for each province and the entire Kingdom was thus shown. These statistics, however, represent ten-year averages and not the crop for any individual year.

In the Statistical Abstract for the Principal and Other Foreign Countries, published by the British Board of Trade, the crop in Belgium for each year has been calculated by applying to the area returned by the preceding census the average yield shown in the Bulletin de l'Agriculture. Those statistics show a sudden decline in the case of wheat from 6,658,239 hectoliters in 1896 to 4,217,214 hectoliters in 1897. The decline so shown resulted not from any marked change in the average yield, but from using in the latter year for the first time the acreage returned by the census of 1895 (445,700 acres), instead of the much larger acreage in 1880 (681,800 acres).

The actual decline in acreage must be assumed, in the absence of evidence to the contrary, to have been gradual throughout the period covered. In compiling Table 35 the acreage for each year between 1880 and 1895 was estimated by assuming an annual decrease, or, in the case of barley and rye, an annual increase of one-fifteenth of the difference between the area in the two years. Between 1895 and 1900 the acreage for each year was estimated in a similar manner.

The areas so obtained were multiplied by the average yield in the entire Kingdom as given in the census of 1895 for the years 1886–1895 and as given in the Bulletin de l'Agriculture for 1880–1885 and 1896–1899. The acreage statistics shown in the census do not distinguish

the area devoted to the spring crop from that devoted to the winter crop, while the estimates of the average yield separate spring and winter wheat and spring and winter barley, and entirely omit maslin. Following the census of 1895, but not the census of 1880 nor the British Statistical Abstract, the average yield of winter wheat alone was used in estimating the total production of wheat. In the case of barley, the average yield for the winter crop was also applied to the total acreage, since the statistics subsequent to 1899 show that only about 14 per cent of the total barley was spring sown. For maslin the average yield is assumed to be a mean between the average yield of winter wheat and rye. The production for all years prior to 1900 and the acreage during the same period, except for census years, are given in more rounded form than are the data officially returned.

Beginning with 1900, however, an agricultural census has been taken annually by the Ministry of Agriculture. These returns, it should be noted, do not take account of plots of less than one hectare, or 2½ acres. This limitation, while important in the case of potatoes and some other crops, has perhaps no material influence on the grain crops. The average yields given for the last six years show a remarkable increase if they are fairly comparable with the average yield returned for earlier years.

TABLE 35.—*Grain production of* ***Belgium****, 1880–1905.*

Year.	Wheat.				Rye.			Maslin.		
	Area.[a]	Production.[a]	Average yield.[a]		Area.[a]	Production.[a]	Average yield.[a]	Area.[a]	Production.[a]	Average yield.[a]
			Winter.	Spring.						
	Acres.	*Bush.*	*Bush.*	*Bush.*	*Acres.*	*Bush.*	*Bush.*	*Acres.*	*Bush.*	*Bush.*
1880	681,800	18,100,000	26.6	23.7	686,100	18,200,000	26.5	63,600	1,700,000	26.6
1881	666,000	14,900,000	22.4	19.5	687,000	14,400,000	20.9	62,000	1,300,000	21.7
1882	650,000	16,700,000	25.7	19.9	688,000	17,900,000	26.0	61,000	1,600,000	25.9
1883	635,000	15,900,000	25.0	22.1	689,000	16,500,000	23.9	60,000	1,500,000	24.4
1884	619,000	16,000,000	25.9	22.0	690,000	18,200,000	26.4	59,000	1,500,000	26.1
1885	603,000	16,600,000	27.5	22.7	691,000	18,000,000	26.1	58,000	1,600,000	26.8
1886	587,000	15,800,000	27.0	22.9	692,000	15,500,000	22.4	56,000	1,400,000	24.7
1887	572,000	17,000,000	29.8	.....	693,000	19,200,000	27.7	55,000	1,600,000	28.8
1888	556,000	12,200,000	21.9	19.3	694,000	15,100,000	21.7	54,000	1,200,000	21.8
1889	540,000	15,200,000	28.2	21.8	695,000	18,500,000	26.6	53,000	1,500,000	27.4
1890	524,000	15,000,000	28.6	23.2	696,000	20,000,000	28.7	52,000	1,500,000	28.7
1891	509,000	11,700,000	23.0	26.0	696,000	15,600,000	22.4	50,000	1,100,000	22.7
1892	493,000	15,400,000	31.2	25.9	697,000	23,200,000	33.3	49,000	1,600,000	32.2
1893	477,000	13,200,000	27.7	22.7	698,000	19,500,000	28.0	48,000	1,300,000	27.9
1894	461,000	13,100,000	28.4	22.5	699,000	21,300,000	30.5	47,000	1,400,000	29.5
1895	445,700	12,800,000	28.8	25.5	700,200	21,300,000	30.4	45,600	1,300,000	29.6
1896	440,000	13,500,000	30.7	23.7	681,000	22,000,000	32.3	43,000	1,400,000	31.5
1897	434,000	11,700,000	26.9	24.0	662,000	19,500,000	29.5	41,000	1,200,000	28.2
1898	429,000	13,600,000	31.7	22.8	644,000	19,100,000	29.6	38,000	1,200,000	30.6
1899	423,000	11,100,000	26.2	20.4	625,000	16,600,000	26.5	36,000	950,000	26.3
1900	417,500	13,788,000	33.0		605,800	19,853,000	32.8	33,000	955,000	28.9
1901	409,700	14,143,000	34.5		620,400	21,188,000	34.1	33,200	1,013,000	30.2
1902	415,700	14,521,000	34.9		654,900	22,374,000	34.2	33,200	1,010,000	30.4
1903	355,400	12,350,000	34.7		626,800	21,756,000	34.7	30,700	912,000	29.7
1904	393,200	13,817,000	35.1		639,300	21,990,000	34.4	28,600	819,000	28.7
1905	402,500	12,401,000	30.8		659,700	21,349,000	32.4	28,800	784,000	27.3

[a] For 1881–1894 and 1896–1899, estimated.

TABLE 35.—*Grain production of* ***Belgium,*** *1880–1905*—Continued.

Year.	Barley.									
	Total.				Winter.			Spring.		
	Area.[a]	Production.[a]	Average yield.[a]		Area.	Production.	Average yield.	Area.	Production.	Average yield.
			Winter.	Spring.						
	Acres.	*Bushels.*	*Bush.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1880	99,300	3,600,000	36.0	31.4	.....	.....	.....	.....	.....	.....
1881	99,300	3,500,000	35.4	27.9	.....	.....	.....	.....	.....	.....
1882	99,300	3,800,000	38.6	29.1	.....	.....	.....	.....	.....	.....
1883	99,300	3,700,000	37.6	31.1	.....	.....	.....	.....	.....	.....
1884	99,300	4,200,000	42.3	33.8	.....	.....	.....	.....	.....	.....
1885	99,300	4,200,000	42.7	32.1	.....	.....	.....	.....	.....	.....
1886	99,400	3,900,000	39.3	35.8	.....	.....	.....	.....	.....	.....
1887	99,400	4,400,000	43.9	32.0	.....	.....	.....	.....	.....	.....
1888	99,400	3,500,000	35.1	32.8	.....	.....	.....	.....	.....	.....
1889	99,400	4,000,000	40.4	32.9	.....	.....	.....	.....	.....	.....
1890	99,400	4,500,000	45.4	34.5	.....	.....	.....	.....	.....	.....
1891	99,400	3,400,000	34.3	38.3	.....	.....	.....	.....	.....	.....
1892	99,400	4,500,000	44.9	36.9	.....	.....	.....	.....	.....	.....
1893	99,400	3,900,000	38.8	29.4	.....	.....	.....	.....	.....	.....
1894	99,400	4,000,000	40.6	32.0	.....	.....	.....	.....	.....	.....
1895	99,400	4,300,000	43.6	32.0	.....	.....	.....	.....	.....	.....
1896	99,000	4,400,000	44.6	33.5	.....	.....	.....	.....	.....	.....
1897	98,000	3,700,000	37.3	31.1	.....	.....	.....	.....	.....	.....
1898	97,000	4,100,000	42.2	33.9	.....	.....	.....	.....	.....	.....
1899	96,000	4,100,000	42.3	39.8	.....	.....	.....	.....	.....	.....
1900	95,000	4,759,000	50.1		83,900	4,309,000	51.4	11,100	450,000	40.6
1901	94,600	4,850,000	51.3		82,500	4,347,000	52.7	12,100	503,000	41.5
1902	93,900	4,974,000	52.9		82,800	4,507,000	54.4	11,100	467,000	42.0
1903	79,800	3,923,000	49.2		61,900	3,167,000	51.2	17,900	756,000	42.3
1904	98,800	5,004,000	50.7		82,200	4,323,000	52.6	16,600	681,000	41.0
1905	94,400	4,518,000	47.9		84,000	4,120,000	49.1	10,400	398,000	38.3

Year.	Spelt.			Oats.			Buckwheat.		
	Area.[a]	Production.[a]	Average yield.[a]	Area.[a]	Production.[a]	Average yield.[a]	Area.[a]	Production.[a]	Average yield.[a]
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1880	129,800	4,910,000	37.8	616,500	30,000,000	48.6	32,600	740,000	22.7
1881	127,000	3,900,000	30.7	616,000	23,800,000	38.7	31,000	730,000	23.4
1882	124,000	4,860,000	39.2	616,000	27,400,000	44.5	30,000	690,000	23.1
1883	121,000	4,260,000	35.2	616,000	25,300,000	41.1	28,000	760,000	27.0
1884	117,000	4,560,000	39.0	616,000	28,000,000	45.4	27,000	600,000	22.4
1885	114,000	4,450,000	39.0	616,000	28,600,000	46.4	26,000	530,000	20.3
1886	111,000	4,530,000	40.8	616,000	32,300,000	52.4	24,000	620,000	25.7
1887	108,000	4,420,000	40.9	616,000	25,900,000	42.0	23,000	340,000	14.9
1888	105,000	3,030,000	28.9	615,000	30,800,000	50.1	21,000	510,000	24.1
1889	102,000	3,800,000	37.3	615,000	30,300,000	49.2	20,000	590,000	29.6
1890	99,000	4,220,000	42.6	615,000	33,900,000	55.2	19,000	410,000	21.6
1891	96,000	2,820,000	29.4	615,000	36,500,000	59.3	17,000	410,000	24.4
1892	93,000	3,260,000	35.0	615,000	30,300,000	49.2	16,000	550,000	34.4
1893	90,000	2,920,000	32.5	615,000	21,600,000	35.1	14,000	280,000	20.3
1894	87,000	2,910,000	33.5	615,000	31,100,000	50.6	13,000	290,000	22.2
1895	83,700	3,240,000	38.7	614,500	34,500,000	55.8	11,600	290,000	25.3
1896	79,000	3,490,000	44.2	617,000	28,600,000	46.4	11,000	240,000	21.4
1897	74,000	3,160,000	42.7	619,000	34,000,000	54.9	10,000	270,000	26.7
1898	69,000	2,900,000	42.0	621,000	41,500,000	66.8	9,000	200,000	21.8
1899	64,000	2,680,000	41.8	624,000	33,300,000	53.3	8,000	200,000	24.6
1900	58,600	2,568,000	43.8	625,800	39,177,000	62.6	7,500	202,000	27.0
1901	57,300	2,590,000	45.2	615,800	40,565,000	65.9	7,100	188,000	26.5
1902	57,800	2,715,000	47.0	646,200	45,588,000	70.5	6,600	183,000	27.7
1903	50,700	2,320,000	45.8	705,800	48,345,000	68.5	7,100	211,000	29.6
1904	56,000	2,586,000	46.2	613,300	37,500,000	61.1	6,600	146,000	22.2
1905	69,000	2,250,000	32.6	586,500	33,786,000	57.6	5,500	148,000	26.7

[a] For 1881–1894 and 1896–1899, estimated.

BULGARIA.

Agricultural statistics for Bulgaria are available for only seven years, 1897–1899 and 1903–1906. For the years 1897–1899 data were obtained from the official Bulgarian report entitled Les Résul-

tats des Ensemencements et la Récolte dans la Principauté de Bulgarie; those for 1903[a] and 1904 were taken from a mimeographed statement, published officially; while those for 1905 and 1906 were furnished directly by the Bulgarian Ministry of Commerce and Agriculture.

Several of the years for which production statistics are available were abnormal. The first three years, 1897–1899, were marked by small wheat and rye crops, while 1904 witnessed a drop of over one-half in the corn crop and serious declines in the case of the other spring grains.

It seemed necessary, therefore, to calculate as approximately as possible from the information available, the probable average production for each of the periods shown in the summary tables given on former pages of this bulletin. For this purpose the per capita consumption for the six years 1897–1899 and 1903–1905 was calculated from the production statistics and the imports and exports. Assuming an average population of 3,751,000 for this period, it appears that the average per capita consumption of the different grains was as follows: Wheat, 5.82 bushels; rye, 1.40 bushels; oats, 2.12 bushels; barley, 2.37 bushels; corn, 4.71 bushels; millet, 0.17 bushel. From the average rates of consumption thus ascertained and the estimated population for the various years,[b] the average annual consumption for the first two five-year periods (1886–1890 and 1891–1895) was ascertained. The average net exports added to the domestic consumption thus estimated gave the total crop as it appears in the summary tables.

For the last two periods the official statistics of production were combined with estimates for the remaining years computed in the same way as the production statistics for the earlier periods. (See Table 36.) This course seemed necessary because, if the official statistics alone were used as representative of the longer periods in which they are contained, the effect of the low wheat and rye crops for 1897–1899 and the abnormally low corn crop for 1904 would be unduly exaggerated. On the other hand, a straight calculation, such as was made for the earlier periods, would have unfairly minimized the effects of these bad years.

An early estimate of the production of grain in Bulgaria is available, it is true, in Neumann-Spallart's Uebersichten der Weltwirtschaft, Volume V, page 128. This estimate converted from hectoliters to Winchester bushels is reprinted in Table 37. The data

[a] The figures for 1903 agree with those given in the Austro-Hungarian Consular Reports, 1905, A, II, 1, page 8.

[b] Population estimated as follows: 1888, 3,170,000; 1893, 3,325,000; 1898, 3,578,000; 1903, 3,875,000. (See Sundbärg: Aperçus statistiques internationaux.)

given there, however, have no satisfactory basis and appear entirely inconsistent with the official data later published.

TABLE 36.—*Grain production of* ***Bulgaria,*** *1897–1906.*

Year.	Wheat.			Rye.			Maslin.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1897	2,167,200	28,871,000	13.3	413,900	6,333,000	15.3	156,200	2,316,000	14.8
1898	1,933,600	33,993,000	17.6	346,700	5,437,000	15.7	138,100	2,676,000	19.4
1899	2,040,300	21,630,000	10.6	365,600	4,655,000	12.7	164,100	2,856,000	17.4
1903	1,995,300	35,551,000	17.8	418,700	7,750,000	18.5	243,000	5,011,000	20.6
1904	2,268,400	43,693,000	19.3	430,900	8,210,000	19.1	250,700	5,314,000	21.2
1905	2,648,400	40,736,000	15.4	449,800	7,541,000	16.8	.....	.....	.....
1906	2,333,000	55,076,000	23.6	413,900	10,818,000	26.1	.....	.....	.....

Year.	Barley.			Spelt.			Millet.[a]		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1897	481,600	11,750,000	24.4	39,300	798,000	20.3	37,100	998,000	26.9
1898	499,100	12,204,000	24.5	36,600	751,000	20.5	73,900	1,582,000	21.4
1899	528,200	6,650,000	12.6	34,600	497,000	14.3	56,400	595,000	10.6
1903	565,600	12,773,000	22.6	36,500	794,000	21.8	54,400	906,000	16.7
1904	575,300	12,025,000	20.9	37,600	779,000	20.7	21,700	111,000	5.1
1905	576,600	12,080,000	21.0	.....	.....	.....	25,800	373,000	14.5
1906	351,100	12,882,000	36.7	.....	.....	.....	.....	.....	.....

Year.	Corn.[a]			Oats.			Buckwheat.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1897	864,300	27,418,000	31.7	311,300	7,866,000	25.3	130	(*b*)	(*b*)
1898	1,222,000	37,751,000	30.9	346,000	10,662,000	30.8	254	2,572	10.1
1899	1,104,800	20,462,000	18.5	337,500	5,769,000	17.1	191	1,833	9.6
1903	1,205,800	22,836,000	18.9	400,300	11,389,000	28.4	165	2,352	14.3
1904	1,201,000	11,043,000	9.2	459,500	10,900,000	23.7	.....	.....	.....
1905	1,168,700	19,649,000	16.8	429,000	10,263,000	23.9	35	263	7.5
1906	1,201,700	c40,258,000	d33.5	470,000	18,793,000	40.0	.....	.....	.....

[a] In 1898 and 1899, including second crop.
[b] Statistics of production and average yield very incomplete.
[c] Obtained by multiplying area by average yield. See footnote (*d*).
[d] The average yield is so given in the statement furnished by the Bulgarian Ministry of Agriculture and Commerce, but the total crop is there given, apparently in error, as 5,744,000 bushels.

Prior to 1897 no acreage statistics are available. In the comparative tables of acreage given earlier in this bulletin, it was necessary to use the data for 1897 in place of those for 1895, except in the case of corn, for which the 1897 figure was abnormally low. It became necessary, therefore, to calculate the probable area in the various grains for 1885 and the corn area for 1895. This was done by applying to the estimated average production of each grain for 1886–1890 (and of corn for 1891–1900), the average yield for the six years 1897–1899 and 1903–1905. The results obtained are merely rough estimates and are probably even less precise than the estimates given for the average production of grain; but it is believed that they indicate in a broad way the general progress of grain culture.

TABLE 37.—*Estimated production of grain in Bulgaria about 1870.*

Grain.	Hectoliters.	Bushels.
Wheat	8,500,000	24,100,000
Rye	400,000	1,100,000
Barley	3,900,000	11,100,000
Oats	800,000	2,300,000
Corn	2,400,000	6,800,000

DENMARK.

Denmark is noteworthy as showing the largest average yield of wheat per acre obtained by any country of Europe. During the five years 1901–1905 the average yield was no less than 40 bushels per acre, while during the preceding five years it attained an average of 41 bushels per acre. In rye the average yield of Denmark is surpassed only by that of Belgium and Ireland.

Acreage statistics for Denmark are not published annually, but only at census periods; 1881, 1888, 1896, and 1901 are consequently the only years for which the official data of acreage were collected. For 1882–1887 and for 1889–1895 the acreage statistics were calculated officially by assuming a constant annual increase or decrease. From the area so determined, the crop statistics were recalculated. The revised statistics for 1883–1896, as published in Statistiske Meddelelser, 4th series, vol. 2, are given in Table 38.

The area statistics of 1896 serve as a basis for compiling the crop reports for the years 1896–1900. In 1901 a new census of area was taken. That year, however, was a disastrous one for wheat; of 101,200 acres planted during the preceding autumn only 32,200 acres remained under cultivation on July 15, 1901, when the census was taken. The rest of the crop proved so complete a failure that the land was replowed and resown to other crops. For this reason the area under the various crops on the census day was entirely abnormal. The enumerators therefore inquired not only the actual land then under each crop, but also the area that had been set apart for each at the autumn planting. The latter data have been used for estimating the crop each year since 1901, while the 1901 crop was based on the actual acreage returned by the census.

In Table 38 the average yield for 1897–1900 is obtained by dividing the crop of each year by the acreage in 1896. As in other Scandinavian countries, barley and oats form the leading crops and maslin represents the mixture of these two grains. In Denmark the usual way in which maslin is sown is by mixing one part of barley with two parts of oats.

TABLE 38.—*Grain production of* ***Denmark****, 1883–1905.*

Year.	Wheat.			Rye.			Maslin.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[a]	*Bush.*[a]	*Acres.*	*Bushels.*[a]	*Bush.*[a]	*Acres.*	*Bushels.*[a]	*Bush.*[a]
1883	132,900	4,506,000	33.9	670,700	17,678,000	26.4	180,000	5,688,000	31.6
1884	130,300	4,696,000	36.0	675,400	16,653,000	24.7	190,000	6,140,000	32.3
1885	127,700	5,124,000	40.1	680,000	17,898,000	26.3	200,000	6,899,000	34.5
1886	125,100	4,722,000	37.7	684,700	16,554,000	24.2	210,000	7,390,000	35.2
1887	122,500	5,352,000	43.7	689,300	17,251,000	25.0	220,000	7,841,000	35.7
1888	119,900	3,287,000	27.4	694,000	16,356,000	23.6	230,000	7,951,000	34.6
1889	115,600	4,195,000	36.3	697,000	18,132,000	26.0	238,100	7,247,000	30.4
1890	111,200	3,774,000	33.9	700,100	17,008,000	24.3	246,400	8,909,000	36.2
1891	106,800	4,172,000	39.1	703,100	19,545,000	27.8	254,600	8,987,000	35.3
1892	102,500	4,262,000	41.6	706,100	20,379,000	28.9	262,900	10,382,000	39.5
1893	98,100	3,858,000	39.3	709,100	19,643,000	27.7	271,100	7,360,000	27.1
1894	93,700	3,262,000	34.8	712,200	16,639,000	23.4	279,400	10,131,000	36.3
1895	89,400	3,467,000	38.8	715,200	18,399,000	25.7	287,600	10,828,000	37.6
1896	85,000	3,688,000	43.4	718,200	20,081,000	28.0	295,900	10,740,000	36.3
1897	.....	3,474,000	40.9	.....	18,116,000	25.2	.....	10,150,000	34.3
1898	.....	2,990,000	35.2	.....	16,133,000	22.5	.....	11,458,000	38.7
1899	.....	3,654,000	43.0	.....	18,359,000	25.6	.....	10,859,000	36.7
1900	.....	3,604,000	42.4	.....	19,955,000	27.8	.....	11,522,000	38.9
1901	32,200	942,000	29.2	673,400	16,605,000	24.7	352,600	13,107,000	37.2
1902	[b]101,200	4,528,000	44.7	[b]674,300	18,779,000	27.9	[b]341,900	13,402,000	39.2
1903		4,461,000	44.1		19,305,000	28.6		13,573,000	39.7
1904		4,302,000	42.5		16,546,000	24.5		12,936,000	37.8
1905		4,083,000	40.3		19,245,000	28.5		12,059,000	35.3

Year.	Oats.			Barley.			Buckwheat.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[a]	*Bush.*[a]	*Acres.*	*Bushels.*[a]	*Bush.*[a]	*Acres.*	*Bushels.*[a]	*Bush.*[a]
1883	1,010,500	30,534,000	30.2	769,800	20,865,000	27.1	51,700	1,150,000	22.2
1884	1,019,900	30,979,000	30.4	763,100	20,726,000	27.2	52,600	1,048,000	19.9
1885	1,027,400	34,043,000	33.1	756,400	20,883,000	27.6	53,400	780,000	14.6
1886	1,035,800	35,372,000	34.1	749,800	23,209,000	31.0	54,300	867,000	16.0
1887	1,044,300	31,877,000	30.5	743,100	21,884,000	29.4	55,100	832,000	15.1
1888	1,052,700	35,474,000	33.7	736,400	22,139,000	30.1	56,000	806,000	14.4
1889	1,056,900	28,051,000	26.5	730,800	18,625,000	25.5	52,700	1,006,000	19.1
1890	1,061,000	37,312,000	35.2	725,100	23,454,000	32.3	49,300	629,000	12.8
1891	1,065,200	34,432,000	32.3	719,500	22,646,000	31.5	45,900	635,000	13.8
1892	1,069,300	40,748,000	38.1	713,800	24,725,000	34.6	42,600	416,000	9.8
1893	1,073,500	27,848,000	25.9	708,200	17,297,000	24.4	39,200	641,000	16.4
1894	1,077,600	38,326,000	35.6	702,500	21,270,000	30.3	35,800	577,000	16.1
1895	1,081,700	40,237,000	37.2	696,900	21,794,000	31.3	32,500	472,000	14.5
1896	1,085,900	38,521,000	35.5	691,200	21,249,000	30.7	29,100	405,000	13.9
1897	.....	35,220,000	32.4	.....	19,172,000	27.7	.....	512,000	17.6
1898	.....	41,474,000	38.2	.....	21,868,000	31.6	.....	277,000	9.5
1899	.....	37,074,000	34.1	.....	21,694,000	31.4	.....	325,000	11.2
1900	.....	40,331,000	37.1	.....	22,829,000	33.0	.....	467,000	16.0
1901	1,069,100	37,409,000	35.0	695,300	22,283,000	32.0	28,200	419,000	14.8
1902	[b]1,057,100	40,822,000	38.6	[b]656,600	23,287,000	35.5	[b] 28,200	426,000	15.1
1903		41,176,000	39.0		23,340,000	35.5		410,000	14.5
1904		38,183,000	36.1		22,708,000	34.6		309,000	11.0
1905		32,659,000	30.9		21,146,000	32.2		494,000	17.5

[a] Winchester bushels.
[b] Area returned by the census of 1901 as intended for the crop named at the time of fall planting; the area actually harvested in 1901, owing to the failure of the wheat crop, differed considerably from these figures.

FINLAND.

In Finland the three important crops are oats, rye, and barley. Statistics of production and sowings, but not of acreage, are published annually in the Statistisk Årsbok för Finland. The method of showing the relative success or failure of a crop by the relation between the quantity sown and quantity harvested rather than between the area and the crop is generally followed in Norway and Sweden, as well as Finland. Outside of these three countries this old

system of showing the "fold" obtained, rather than the average yield per acre, has generally been abandoned. It is probably retained in these countries because of the difficulty frequently found in measuring directly the land area, owing to the character of the land, which is frequently cultivated in tracts of irregular boundary. In the summary tables on former pages of this bulletin the probable area has been calculated on the assumption that the average sowings per acre in Finland have been the same as in Sweden for the same year. The detailed statistics of sowings and production appear in Table 39.

TABLE 39.—*Grain production of* ***Finland,*** *1883–1904.*

Year.	Wheat.		Rye.		Maslin.	
	Sowings.	Production.	Sowings.	Production.	Sowings.	Production.
	Bushels.[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]
1883	18,600	122,000	1,752,000	12,258,000	71,400	366,000
1884	18,600	121,000	1,750,600	11,061,000	72,600	349,000
1885	18,700	118,000	1,786,000	10,942,000	76,700	365,000
1886	18,800	133,000	1,825,000	12,776,000	79,100	421,000
1887	20,300	157,000	1,836,000	13,022,000	84,200	475,000
1888	20,100	148,000	1,825,000	12,460,000	81,100	400,000
1889	22,000	159,000	1,826,000	12,847,000	88,700	460,000
1890	20,600	145,000	1,851,000	12,821,000	84,000	515,000
1891	19,400	126,000	1,833,000	12,419,000	83,400	338,000
1892	19,900	113,000	1,819,000	9,202,000	78,300	316,000
1893	18,900	127,000	1,707,000	10,863,000	82,000	354,000
1894	20,200	148,000	1,771,000	12,205,000	82,800	429,000
1895	20,700	147,000	1,771,000	13,244,000	83,200	449,000
1896	18,900	149,000	1,789,000	13,669,000	91,700	475,000
1897	20,600	158,000	1,829,000	13,278,000	92,200	485,000
1898	22,500	159,000	1,768,000	12,991,000	96,500	503,000
1899	20,700	144,000	1,735,000	10,223,000	87,600	332,000
1900	20,400	159,000	1,716,000	11,477,000	96,900	421,000
1901	20,200	140,000	1,720,000	12,655,000	80,400	407,000
1902	19,700	78,900	1,697,000	8,841,000	83,500	305,000
1903	18,600	130,000	1,636,000	10,598,000	90,200	430,000
1904	18,900	133,000	1,618,000	10,362,000	79,600	346,000

Year.	Oats.		Barley.		Buckwheat.	
	Sowings.	Production.	Sowings.	Production.	Sowings.	Production.
	Bushels.[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]
1883	1,983,000	10,270,000	1,070,000	5,884,000	4,600	40,800
1884	2,122,000	10,247,000	1,094,000	5,362,000	4,400	31,200
1885	2,171,000	10,498,000	1,061,000	5,281,000	5,000	39,500
1886	2,301,000	12,320,000	1,087,000	6,120,000	5,700	62,000
1887	2,501,000	14,231,000	1,092,000	6,123,000	5,800	48,500
1888	2,504,000	13,220,000	1,091,000	5,569,000	4,800	37,400
1889	2,578,000	13,575,000	1,086,000	6,008,000	5,200	44,000
1890	2,787,000	15,660,000	1,150,000	6,560,000	5,100	45,600
1891	2,834,000	12,151,000	1,114,000	5,073,000	4,100	29,900
1892	2,821,000	13,004,000	1,090,000	4,173,000	4,000	23,200
1893	2,700,000	13,784,000	1,047,000	5,055,000	3,300	15,400
1894	2,884,000	16,793,000	1,061,000	5,761,000	3,600	26,200
1895	3,038,000	18,797,000	1,061,000	6,112,000	10,100	82,500
1896	3,122,000	17,521,000	1,060,000	5,950,000	3,600	28,800
1897	3,178,000	17,978,000	1,050,000	5,998,000	3,300	26,000
1898	3,303,000	19,048,000	1,042,000	5,727,000	3,800	31,700
1899	3,272,000	14,982,000	1,036,000	3,775,000	3,900	29,200
1900	3,315,000	17,704,000	1,021,000	4,637,000	3,900	30,600
1901	3,397,000	17,131,000	995,000	4,871,000	4,000	28,500
1902	3,534,000	15,200,000	1,003,000	3,628,000	4,000	23,400
1903	3,251,000	17,046,000	1,007,000	5,233,000	1,900	12,800
1904	3,344,000	16,995,000	993,000	4,916,000	1,600	10,500

[a] Winchester bushels.

FRANCE.

In France wheat occupies nearly one-half, while oats is grown on slightly more than one-fourth of the grain area. These two cereals consequently occupy together more than three-fourths of the entire land devoted to the production of grain.

During the period under review the grain acreage in France has shown a considerable decrease. In 1885 nearly 37,000,000 acres were devoted to these crops, while in 1905 about 33,000,000 acres were planted to grain. The only cereal showing a larger acreage in 1905 than in 1885 is oats, which increased nearly 300,000 acres in the twenty years. By virtue of a larger yield per acre, however, the production of wheat in spite of the decrease in acreage showed an increase of over 20,000,000 bushels. France produced on the average in 1886–1890 less than 90 per cent of its total requirements, while in 1901–1905 it produced over 97 per cent.

Official statistics of acreage, production, and average yield for each grain, taken from the French Statistique Agricole Annuelle, are given in Table 40.

TABLE 40.—*Grain production of* ***France,*** *1883–1906.*

Year.	Wheat.			Maslin.			Rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1883	16,812,500	291,236,000	17.3	906,700	15,884,000	17.5	4,249,400	69,827,000	16.4
1884	17,426,300	324,205,000	18.6	889,400	16,555,000	18.6	4,263,800	73,925,000	17.3
1885	17,190,400	312,989,000	18.2	817,800	14,752,000	18.0	4,133,900	68,458,000	16.6
1886	17,189,000	302,612,000	17.6	832,800	14,489,000	17.4	4,038,400	63,882,000	15.8
1887	17,216,900	320,018,000	18.6	809,200	14,449,000	17.9	4,013,700	66,694,000	16.6
1888	17,243,200	275,466,000	16.0	757,100	12,193,000	16.1	4,024,900	62,194,000	15.5
1889	17,393,600	305.820,000	17.6	740,300	12,825,000	17.3	3,952,400	65,287,000	16.5
1890	17,449,800	329,716,000	19.0	733,800	13,412,000	18.3	3,925,600	68,233,000	17.4
1891	14,220,400	216,026,000	15.2	669,400	10,305,000	15.4	3,703,000	60,618,000	16.4
1892	17,264,200	310,731,000	18.0	682,000	11,612,000	17.0	3,809,900	67,081,000	17.6
1893	17,477,800	277,754,000	15.9	676,700	10,495,000	15.5	3,781,000	64,350,000	17.0
1894	17,276,200	344,184,000	19.9	655,700	12,513,000	19.1	3,844,300	74,927,000	19.5
1895	17,301,400	339,599,000	19.6	637,200	12,452,000	19.5	3,789,400	71,833,000	19.0
1896	16,976,900	340,271,000	20.0	619,800	11,743,000	18.9	3,707,100	69,767,000	18.8
1897	16,268,800	242,230,000	14.9	592,400	8,607,000	14.5	3,587,300	47,737,000	13.3
1898	17,207,600	364,910,000	21.2	585,500	11,949,000	20.4	3,644,600	66,921,000	18.4
1899	17,149,500	365,452,000	21.3	553,600	11,197,000	20.2	3,679,100	67,224,000	18.3
1900	16,961,400	325,545,000	19.2	495,600	9,043,000	18.2	3,508,300	59,397,000	16.9
1901	16,787,700	310,916,000	18.5	486,100	8,588,000	17.7	3,489,400	58,387,000	16.7
1902	16,219,200	327,901,000	20.2	418,100	7,664,000	18.3	3,290,800	45,661,000	13.9
1903	16,009,200	362,971,000	22.7	397,100	7,748,000	19.5	3,205,500	58,128,000	18.1
1904	16,133,200	299,642,000	18.6	379,800	6,752,000	17.8	3,144,300	52,670,000	16.8
1905	16,085,800	334,841,000	20.8	371,400	7,105,000	19.1	3,136,900	58,587,000	18.7
1906	16,103,200	328,701,000	20.4	367,400	6,517,000	17.7	3,095,100	50,889,000	16.4

TABLE 40.—*Grain production of* **France,** *1883–1906*—Continued.

Year.	Barley.			Buckwheat.			Oats.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	2,633,000	59,295,000	22.5	1,558,100	32,507,000	20.9	9,215,700	303,209,000	32.9
1884	2,613,100	56,786,000	21.7	1,563,300	31,900,000	20.4	9,135,700	284,808,000	31.2
1885	2,361,400	51,323,000	21.7	1,552,100	25,468,000	16.4	9,117,200	279,493,000	30.7
1886	2,339,300	52,779,000	22.6	1,502,400	29,860,000	19.9	9,232,000	290,991,000	31.5
1887	2,309,000	50,068,000	21.7	1,538,400	24,503,000	15.9	9,192,600	259,380,000	28.2
1888	2,208,400	45,981,000	20.8	1,502,100	28,542,000	19.0	9,227,500	269,997,000	29.3
1889	2,158,500	45,851,000	21.2	1,459,900	26,656,000	18.3	9,287,500	275,230,000	29.6
1890	2,168,400	49,802,000	23.0	1,498,600	27,758,000	18.5	9,342,300	304,647,000	32.6
1891	3,022,500	74,687,000	24.7	1,541,800	29,653,000	19.2	10,483,900	342,198,000	32.6
1892	2,263,700	47,996,000	21.2	1,492,600	28,264,000	18.9	9,421,700	268,234,000	28.5
1893	2,161,300	35,807,000	16.6	1,443,300	25,442,000	17.6	9,495,000	196,668,000	20.7
1894	2,200,000	49,781,000	22.6	1,435,500	28,016,000	19.5	9,591,100	294,347,000	30.7
1895	2,200,900	49,815,000	22.6	1,426,200	28,679,000	20.1	9,807,400	305,745,000	31.2
1896	2,110,000	47,564,000	22.5	1,389,000	24,750,000	17.8	9,677,300	296,208,000	30.6
1897	2,119,900	41,632,000	19.6	1,364,800	26,933,000	19.7	9,860,800	253,260,000	25.7
1898	2,012,600	48,516,000	24.1	1,408,000	21,873,000	15.5	9,606,200	321,565,000	33.5
1899	1,992,300	47,151,000	23.7	1,447,900	23,264,000	16.1	9,734,200	307,917,000	31.6
1900	1,871,100	42,229,000	22.6	1,489,000	23,489,000	15.8	9,739,400	285,316,000	29.3
1901	1,838,700	40,044,000	21.8	1,485,900	25,836,000	17.4	9,601,700	254,903,000	26.5
1902	1,714,700	43,536,000	25.4	1,345,400	26,587,000	19.8	9,469,400	319,694,000	33.8
1903	1,722,500	45,082,000	26.2	1,367,700	23,442,000	17.1	9,498,100	344,332,000	36.3
1904	1,741,300	39,406,000	22.6	1,293,000	18,483,000	14.3	9,475,500	290,905,000	30.7
1905	1,746,200	42,147,000	24.1	1,292,200	23,895,000	18.5	9,420,100	305,739,000	32.5
1906	1,752,800	37,870,000	21.6				9,525,600	295,113,000	31.0

Year.	Corn.			Millet.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	1,556,500	27,501,000	17.7	122,800	1,877,000	15.3
1884	1,523,800	28,106,000	18.4	104,300	1,772,000	17.0
1885	1,386,000	25,570,000	18.4	121,600	1,965,060	16.2
1886	1,357,400	25,316,000	18.7	124,500	1,811,000	14.5
1887	1,379,600	29,819,000	21.6	125,500	1,609,000	12.8
1888	1,412,100	28,302,000	20.0	119,100	1,499,000	12.6
1889	1,379,700	26,029,000	18.9	111,100	1,415,000	12.7
1890	1,350,700	23,508,000	17.4	119,700	1,538,000	12.9
1891	1,377,900	26,676,000	19.4	125,600	1,513,000	12.1
1892	1,381,100	26,986,000	19.5	127,200	1,582,000	12.4
1893	1,402,200	26,411,000	18.8	129,000	1,431,000	11.1
1894	1,428,900	27,791,000	19.4	125,700	1,530,000	12.2
1895	1,444,400	26,437,000	18.3	120,500	1,487,000	12.3
1896	1,442,400	30,606,000	21.2	87,100	1,311,000	15.0
1897	1,445,500	30,614,000	21.2	94,600	1,206,000	12.7
1898	1,388,000	23,853,000	17.2	84,800	977,000	11.5
1899	1,386,400	25,633,000	18.5	76,500	876,000	11.4
1900	1,337,300	22,448,000	16.8	90,200	930,000	10.3
1901	1,351,900	26,867,000	19.9	84,700	1,007,000	11.9
1902	1,242,000	25,153,000	20.3	72,900	790,000	10.8
1903	1,239,500	25,727,000	20.8	71,300	919,000	12.9
1904	1,224,600	19,808,000	16.2	58,700	712,000	12.1
1905	1,241,400	24,385,000	19.6	64,400	753,000	11.7

GERMANY.

In total land surface, in arable land, and in grain area Germany slightly exceeds France. While in the latter country a decrease of over 3,000,000 acres in the grain lands occurred during the 20 years from 1885 to 1905, in Germany there was an increase of about 1,000,000 acres. In both countries oats occupies about 28 per cent of the total grain area, but the largest area in Germany is occupied by rye, not by wheat.

Annual estimates of the area, production, and average yield of each grain in Germany, prepared by the Imperial Statistical Office and pub-

lished in the Monatshefte and Vierteljahrshefte zur Statistik des Deutschen Reichs, form the basis of Table 41.[a]

Since 1898 a change has been introduced in the method of estimating crops. For the years 1893–1898 crop estimates are available calculated in both ways, from which it appears that the former method gave smaller results than those attained by the method now in use. The apparent shortage of the crop as returned by the old method was 10.8 per cent in the case of wheat, 15.6 per cent in the case of rye, 15.7 per cent in the case of barley, and 17.2 per cent in the case of oats. In the summary tables of this bulletin earlier estimates have been increased by these percentages, but not in the detailed statistics given in Table 41. In the latter the statistics given for 1893–1898, except for buckwheat and maslin, are the estimates as recalculated by the Imperial Statistical Office, according to the methods now followed. Since 1898 no estimates have been published of spring spelt, winter barley, buckwheat, or maslin. The statistics of einkorn have not been estimated since 1892.

Table 42, compiled from the same sources, shows the sowings per acre in Germany. These statistics are calculated from the acreage by assuming that the sowings of winter wheat average 2.5 bushels per acre; spring wheat, 2.7 bushels; rye, both winter and spring, 2.7 bushels; winter spelt, 4.8 bushels; spring spelt, 5.6 bushels; barley, 2.8 bushels; and oats, 4.5 bushels.

TABLE 41.—*Grain production of* ***Germany,*** *1883–1906.*

Year.	Wheat.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1883	4,760,300	86,690,000	18.2	4,297,700	.....	18.3	462,600	.....	17.1
1884	4,755,400	91,385,000	19.2	4,322,600	.....	19.5	432,800	.....	16.8
1885	4,742,600	95,828,000	20.2	4,320,600	.....	20.5	422,000	.....	17.1
1886	4,736,100	97,974,000	20.7	4,313,700	.....	21.0	422,400	.....	18.1
1887	4,743,600	104,014,000	21.9	4,343,100	.....	22.3	400,500	.....	17.2
1888	4,777,300	92,992,000	19.5	4,363,800	.....	19.6	413,500	.....	18.1
1889	4,834,400	87,171,000	18.0	4,377,900	.....	18.1	456,500	.....	16.4
1890	4,843,700	104,019,000	21.5	4,411,600	.....	26.2	432,100	.....	19.0
1891	4,658,700	85,751,000	18.4	3,910,400	.....	17.8	748,300	.....	21.7
1892	4,881,900	116,216,000	23.8	4,326,100	.....	24.1	555,800	.....	22.0
1893	5,051,100	125,113,000	24.8	4,583,900	115,874,000	25.3	467,200	9,239,000	19.8
1894	4,893,900	122,591,000	25.0	4,475,500	113,135,000	25.3	418,400	9,456,000	22.6
1895	4,771,200	116,546,000	24.4	4,322,600	107,341,000	24.8	448,600	9,205,000	20.5
1896	4,761,400	125,660,000	26.4	4,375,100	117,101,000	26.8	386,300	8,559,000	22.2
1897	4,746,000	119,903,000	25.3	4,362,900	111,586,000	25.6	383,100	8,317,000	21.7
1898	4,866,200	132,557,000	27.2	4,514,200	124,182,000	27.5	352,000	8,375,000	23.8
1899	4,982,800	141,370,000	28.4	4,650,100	133,335,000	28.7	332,700	8,035,000	24.2
1900	5,063,500	141,138,000	27.9	4,712,400	132,449,000	28.1	351,100	8,689,000	24.7
1901	3,907,800	91,817,000	23.5	3,137,500	70,842,000	22.6	770,300	20,975,000	27.2
1902	4,725,200	143,315,000	30.3	4,361,600	133,602,000	30.6	363,600	9,713,000	26.7
1903	4,466,300	130,626,000	29.2	3,836,900	110,321,000	28.7	629,400	20,305,000	32.3
1904	4,738,300	139,804,000	29.5	4,348,400	129,223,000	29.7	389,900	10,581,000	27.1
1905	4,762,000	135,947,000	28.5	4,411,300	126,570,000	28.7	350,700	9,377,000	26.7
1906	4,783,900	144,754,000	30.3	4,333,600	131,205,000	30.3	450,300	13,549,000	30.1

[a] Revised area statistics of wheat, rye, and oats from Vierteljahrshefte zur Statistik des Deutschen Reichs, 1904, I, page 271; of barley (1885) from Statistisches Jahrbuch für das Deutsche Reich, 1897, page 29, the corresponding revision for 1883 and 1884 having apparently not been published. Revised crop statistics of wheat, rye, oats, and barley for 1883–1892 from Vierteljahrshefte, 1900, II, page 180; 1904, I, page 272. Other statistics from regular crop returns in Vierteljahrshefte and, prior to 1891, Monatshefte zur Statistik des Deutschen Reichs.

TABLE 41.—*Grain production of* ***Germany****, 1883–1906*—Continued.

Year.	Spelt and emmer.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	924,600	27,361,000	29.6	919,200	.....	.....	5,400	.....	.....
1884	930,800	29,430,000	31.6	925,400	.....	.....	5,400	.....	.....
1885	925,500	28,565,000	30.9	920,700	.....	.....	4,800	.....	.....
1886	920,500	27,034,000	29.4	915,700	.....	.....	4,800	.....	.....
1887	916,100	27,991,000	30.6	911,200	.....	.....	4,900	.....	.....
1888	903,200	20,578,000	22.8	898,400	.....	.....	4,800	.....	.....
1889	904,700	18,367,000	20.3	899,800	.....	.....	4,900	.....	.....
1890	906,500	30,189,000	33.3	901,300	.....	.....	5,200	.....	.....
1891	810,100	22,847,000	28.2	806,300	.....	.....	3,800	.....	.....
1892	888,300	30,486,000	34.3	883,500	.....	.....	4,800	.....	.....
1893	862,500	32,424,000	37.6	857,600	32,304,000	37.7	4,900	120,000	24.2
1894	853,800	33,198,000	38.9	849,300	33,046,000	38.9	4,500	152,000	33.6
1895	839,400	28,906,000	34.4	836,800	28,828,000	34.4	2,600	78,000	30.1
1896	798,100	26,098,000	32.7	796,000	26,041,000	32.7	2,100	57,000	27.3
1897	807,100	28,400,000	35.2	804,900	28,324,000	35.2	2,200	76,000	34.3
1898	810,700	31,530,000	38.9	809,200	31,486,000	38.9	1,500	44,000	30.1
1899	(a)	(a)	(a)	800,900	29,156,000	36.4	(a)	(a)	(a)
1900	(a)	(a)	(a)	783,900	28,559,000	36.4	(a)	(a)	(a)
1901	(a)	(a)	(a)	777,500	26,467,000	34.0	(a)	(a)	(a)
1902	(a)	(a)	(a)	770,100	29,586,000	38.4	(a)	(a)	(a)
1903	(a)	(a)	(a)	740,900	27,434,000	37.0	(a)	(a)	(a)
1904	(a)	(a)	(a)	772,500	27,792,000	36.0	(a)	(a)	(a)
1905	(a)	(a)	(a)	823,800	29,827,000	36.2	(a)	(a)	(a)
1906	(a)	(a)	(a)	792,300	28,106,000	35.5	(a)	(a)	(a)

Year.	Rye.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	14,399,000	221,460,000	15.4	13,796,900	.....	15.5	602,100	.....	12.6
1884	14,447,200	215,373,000	14.9	13,864,200	.....	15.0	583,000	.....	12.3
1885	14,435,500	230,015,000	15.9	13,860,800	.....	16.1	574,700	.....	12.4
1886	14,428,200	239,865,000	16.6	13,854,700	.....	16.7	573,500	.....	12.7
1887	14,436,500	251,001,000	17.4	13,880,300	.....	17.5	556,200	.....	12.3
1888	14,367,300	217,421,000	15.1	13,844,300	.....	15.3	523,000	.....	11.6
1889	14,336,700	211,149,000	14.7	13,835,100	.....	14.8	501,600	.....	10.8
1890	14,382,200	231,016,000	16.1	13,897,300	.....	16.1	484,900	.....	12.9
1891	13,540,500	188,291,000	13.9	13,026,000	.....	13.9	514,500	.....	13.4
1892	14,032,300	268,795,000	19.2	13,559,200	.....	19.3	473,100	.....	14.7
1893	14,856,600	352,027,000	23.7	14,406,200	344,277,000	23.9	450,400	7,750,000	17.2
1894	14,936,400	328,450,000	22.0	14,495,200	321,000,000	22.1	441,200	7,450,000	16.9
1895	14,563,300	304,116,000	20.9	14,097,700	296,475,000	21.0	465,600	7,641,000	16.4
1896	14,782,200	335,970,000	22.7	14,350,800	329,235,000	22.9	431,400	6,735,000	15.6
1897	14,744,100	321,659,000	21.8	14,330,300	315,066,000	22.0	413,800	6,593,000	15.9
1898	14,690,800	355,581,000	24.2	14,305,300	348,702,000	24.4	385,500	6,879,000	17.8
1899	14,507,600	341,551,000	23.5	14,176,000	335,882,000	23.7	331,600	5,669,000	17.1
1900	14,715,000	336,624,000	22.9	14,380,800	330,821,000	23.0	334,200	5,803,000	17.4
1901	14,362,100	321,350,000	22.4	13,926,400	314,315,000	22.6	435,700	7,035,000	16.1
1902	15,208,100	373,768,000	24.6	14,868,000	367,798,000	24.7	340,100	5,970,000	17.6
1903	14,857,900	389,923,000	26.2	14,497,000	383,148,000	26.4	360,900	6,775,000	18.8
1904	15,071,500	396,074,000	26.3	14,753,200	390,502,000	26.5	318,300	5,572,000	17.5
1905	15,186,000	378,204,000	24.9	14,876,800	372,748,000	25.1	309,200	5,456,000	17.6
1906	15,077,200	378,948,000	25.1	14,759,300	372,954,000	25.3	317,900	5,994,000	18.9

(a) Not estimated officially.

TABLE 41.—*Grain production of* ***Germany,*** *1883–1906*—Continued.

Year.	Barley.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	4,326,500	98,054,000	22.7	114,100	.....	27.5	4,212,400	.....	22.5
1884	4,287,900	102,592,000	23.9	99,600	.....	27.7	4,188,300	.....	23.8
1885	4,305,500	104,023,000	24.2	102,100	.....	28.4	4,203,400	.....	24.0
1886	4,278,600	107,347,000	25.1	103,200	.....	29.2	4,175,400	.....	24.9
1887	4,277,700	101,298,000	23.7	93,300	.....	30.9	4,184,400	.....	23.6
1888	4,257,900	103,828,000	24.4	95,000	.....	28.6	4,162,900	.....	24.3
1889	4,163,700	89,031,000	21.4	82,700	.....	27.3	4,081,000	.....	21.2
1890	4,112,300	104,877,000	25.5	80,600	.....	28.8	4,031,700	.....	25.5
1891	4,464,400	115,622,000	25.9	64,600	.....	27.3	4,399,800	.....	25.8
1892	4,176,300	111,183,000	26.6	75,600	.....	32.2	4,100,700	.....	26.6
1893	4,020,500	111,307,000	27.7	80,700	2,926,000	36.3	3,939,800	108,381,000	27.5
1894	4,023,000	133,254,000	33.1	67,800	2,395,000	35.3	3,955,200	130,859,000	33.1
1895	4,177,500	130,906,000	31.3	68,000	2,580,000	37.9	4,109,500	128,326,000	31.2
1896	4,142,300	127,447,000	30.8	58,200	2,192,000	37.7	4,084,100	125,255,000	30.7
1897	4,116,800	119,833,000	29.1	54,700	2,049,000	37.5	4,062,100	117,784,000	29.0
1898	4,102,200	132,279,000	32.2	61,200	2,339,000	38.2	4,041,000	129,940,000	32.2
1899	(a)	(a)	(a)	(a)	(a)	(a)	4,054,700	137,048,000	33.8
1900	(a)	(a)	(a)	(a)	(a)	(a)	4,126,700	137,889,000	33.4
1901	(a)	(a)	(a)	(a)	(a)	(a)	4,594,300	152,537,000	33.2
1902	(a)	(a)	(a)	(a)	(a)	(a)	4,062,500	142,392,000	35.0
1903	(a)	(a)	(a)	(a)	(a)	(a)	4,202,000	152,653,000	36.3
1904	(a)	(a)	(a)	(a)	(a)	(a)	4,020,600	135,409,000	33.7
1905	(a)	(a)	(a)	(a)	(a)	(a)	4,035,800	134,204,000	33.2
1906	(a)	(a)	(a)	(a)	(a)	(a)	4,063,700	142,901,000	35.2

Year.	Oats.			Buckwheat.			Einkorn (Triticum monococcum).		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1883	9,323,700	256,959,000	27.6	548,000	6,419,000	11.7	14,000	292,000	20.9
1884	9,336,400	292,894,000	31.4	538,500	6,355,000	11.8	13,400	283,000	21.2
1885	9,357,400	300,245,000	32.1	534,900	5,427,000	10.1	13,700	297,000	21.7
1886	9,406,100	334,544,000	35.6	532,700	5,965,000	11.2	13,200	289,000	21.9
1887	9,415,300	296,343,000	31.5	525,400	4,713,000	9.0	12,000	267,000	22.4
1888	9,470,200	320,193,000	33.8	516,400	5,143,000	10.0	12,100	237,000	19.6
1889	9,604,000	289,158,000	30.1	499,100	5,654,000	11.3	11,500	193,000	16.8
1890	9,647,000	338,516,000	35.1	480,800	5,039,000	10.5	11,900	312,000	26.2
1891	10,266,400	363,717,000	35.4	470,000	4,807,000	10.2	10,900	289,000	26.5
1892	9,853,800	326,769,000	33.2	445,500	4,117,000	9.2	11,000	308,000	28.0
1893	9,654,300	288,010,000	29.8	420,900	4,309,000	10.2	(a)	(a)	(a)
1894	9,678,400	453,332,000	46.8	401,500	4,297,000	10.7	(a)	(a)	(a)
1895	9,955,100	430,209,000	43.2	385,000	4,773,000	12.4	(a)	(a)	(a)
1896	9,833,900	411,263,000	41.8	374,400	4,373,000	11.7	(a)	(a)	(a)
1897	9,881,800	393,983,000	39.9	361,800	4,536,000	12.5	(a)	(a)	(a)
1898	9,875,600	465,321,000	47.1	346,900	4,569,000	13.2	(a)	(a)	(a)
1899	9,883,500	474,179,000	48.0	(a)	(a)	(a)	(a)	(a)	(a)
1900	10,187,600	488,595,000	48.0	(a)	(a)	(a)	(a)	(a)	(a)
1901	10,900,800	485,716,000	44.6	(a)	(a)	(a)	(a)	(a)	(a)
1902	10,270,400	514,452,000	50.1	(a)	(a)	(a)	(a)	(a)	(a)
1903	10,601,700	542,432,000	51.2	(a)	(a)	(a)	(a)	(a)	(a)
1904	10,352,900	477,852,000	46.2	(a)	(a)	(a)	(a)	(a)	(a)
1905	10,334,000	451,018,000	43.6	(a)	(a)	(a)	(a)	(a)	(a)
1906	10,431,600	580,875,000	55.7	(a)	(a)	(a)	(a)	(a)	(a)

Year.	Maslin.		
	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*
1893	789,500	11,716,000	14.8
1894	806,600	14,763,000	18.3
1895	834,900	14,543,000	17.4
1896	828,800	13,984,000	16.9
1897	839,400	13,793,000	16.4
1898	840,800	16,050,000	19.1

[a] Not estimated officially.

TABLE 42.—*Sowings of grain in* ***Germany,*** *1883–1905.*

Year.	Rye.	Wheat.	Spelt.	Barley.	Oats.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1883	32,317,711	12,257,515	.....	11,623,824	41,415,547
1884	39,165,425	12,113,773	.....	12,027,407	41,730,050
1885	39,133,733	12,079,528	.....	12,056,894	41,824,848
1886	39,113,813	12,062,700	.....	11,981,615	42,041,728
1887	39,134,954	12,076,736	.....	11,978,538	42,079,965
1888	38,940,790	12,164,516	.....	11,922,917	42,323,369
1889	38,855,164	12,317,444	.....	11,658,317	42,918,134
1890	38,977,914	12,335,411	.....	11,512,949	43,106,629
1891	36,679,399	11,932,296	.....	12,493,639	45,863,716
1892	38,028,470	12,458,245	.....	11,689,962	44,018,516
1893	40,268,956	12,870,657	4,129,257	11,210,044	43,054,132
1894	40,453,908	12,458,098	4,087,614	11,216,428	43,174,491
1895	39,443,483	12,154,191	4,017,127	11,647,248	44,408,734
1896	40,036,408	12,116,566	3,819,263	11,548,958	43,868,052
1897	39,933,263	12,077,066	3,862,192	11,477,905	44,081,968
1898	39,788,782	12,374,433	3,878,787	11,437,349	44,054,066
1899	39,292,742	12,665,112	3,847,372	11,486,126	44,089,615
1900	39,854,251	12,873,045	3,766,046	11,687,069	45,446,285
1901	38,898,311	10,038,563	3,735,426	12,990,781	48,627,485
1902	41,189,937	12,020,224	3,700,152	11,507,897	45,815,214
1903	40,241,398	11,421,301	3,560,403	11,896,921	47,293,551
1904	40,819,994	12,058,768	3,711,542	11,391,144	46,183,317
1905	41,129,940	12,110,687	3,956,929	11,433,537	46,099,266

GREECE.

There are no official estimates of the area or production of grain in Greece. From a calculation made in the introduction to the commercial statistics of Greece for 1898, based upon the population and an estimated average consumption of about 7½ bushels per capita, it appears that the average quantity of grain of all kinds consumed in the Kingdom during the period 1887 to 1891 was about 16,100,000 bushels annually, while during the period 1897 to 1900 the consumption reached 19,300,000 bushels annually. The average imports for the two periods, as given by the authority cited, differ but slightly, amounting to about 6,600,000 bushels of capacity for the earlier and 6,700,000 bushels for the later period. If these figures are deducted from the estimated consumption, it would appear that the total domestic production of grain of all kinds in 1887–1891 was about 9,500,000 bushels annually, while in 1897–1900 it reached about 12,600,000 bushels annually. This calculation would indicate an increase during the decade of about one-third, or 3,000,000 bushels. It is to be noted, however, that the average per capita consumption is merely an estimate, and hence the estimates of total production are chiefly valuable as indicating the relative growth of grain cultivation, rather than the actual amount produced. Owing to the rapid increase assumed in the population, it is probable that even the rate of growth is somewhat exaggerated.

The earliest agricultural statistics of a reliable character relate to the year 1875, and were probably prepared originally for the Paris Exposition of 1878. As reprinted in Neumann-Spallart's Ueber-

sichten der Weltwirtschaft, 1879,[a] these data form the basis for Table 43. A recent estimate, admittedly unofficial in character, appears in the Austro-Hungarian Consular Report for 1904 (A, VI, 4, p. 9), representing the approximate area, sowings, and production of the principal grains. That estimate serves as the basis for Table 44.

A comparison of Tables 43 and 44 confirms the substantial accuracy of the rate of growth indicated above, particularly in respect to wheat. From the data for 1875 and 1904, estimates for intervening years have been interpolated in the summary Tables 3, 4, 13, 15, 17, 19, and 21.

In the comprehensive work of P. A. Decasos on Agriculture in Greece,[b] the average area in the various grains is estimated as follows: Wheat, 1,401,100 acres; barley, 222,900 acres; corn, 195,900 acres; maslin, 139,200 acres; oats, 42,800 acres; and millet, 24,700 acres. The wheat area given by Decasos is more than twice as high as that given in the Austro-Hungarian Consular Report; while for the other grains the estimates of Decasos are slightly lower.

TABLE 43.—*Average grain production of* ***Greece,*** *as estimated in 1875.*

Grain.	Area.		Production.		Average yield.
	Hectares.	*Acres.*	*Hectoliters.*	*Bushels.*	*Bushels.*
Wheat	159,586	394,343	1,582,317	4,490,141	11.4
Maslin	57,749	142,700	567,268	1,609,736	11.3
Rye	846	2,090	6,738	19,120	9.1
Barley	67,910	167,808	783,853	2,224,340	13.3
Oats	4,078	10,077	48,904	138,775	13.8
Corn	61,816	152,750	1,109,983	3,149,799	20.6
Buckwheat	5,831	14,409	52,351	148,556	10.3
Millet and other grain	2,808	6,939	.....	.....	.....

TABLE 44.—*Average grain production in* ***Greece,*** *as unofficially estimated in 1904.*

Grain.	Area.		Sowings.		Production.		Average yield.
	Stremmata.	*Acres.*	*Kile.*	*Bushels.*	*Kile.*	*Bushels.*	*Bushels.*
Wheat	2,800,000	690,000	1,600,000	1,710,000	7,500,000	8,000,000	11.6
Maslin	700,000	170,000	330,000	350,000	1,500,000	1,600,000	9.3
Barley	950,000	230,000	600,000	640,000	3,000,000	3,200,000	13.7
Rye	40,000	10,000	20,000	21,000	100,000	110,000	10.8
Corn	1,000,000	250,000	250,000	270,000	4,500,000	4,800,000	19.5
Oats	200,000	50,000	150,000	160,000	900,000	1,000,000	19.5

ITALY.

Italy enjoys the distinction of having a larger percentage of its total grain area under wheat than any other country of Europe. The official statistics of agriculture show a very considerable increase

a Quoted from La Grèce à l'Exposition universelle de Paris, Notions statistiques, by A. Mansolas; La Grèce sous le point de vue agricole, by A. G. Tombasis. In regard to production, the estimates of the last-named authority were followed.

b Die Landwirtschaft im heutigen Griechenland (1904), p. 63.

in wheat acreage and in wheat production during the period covered by this bulletin. The extension of area has been brought about by reclaiming waste land, by sowing the communal meadow and pasture land, and, especially in Sicily, by devoting to grain culture vineyards destroyed by the phylloxera.

The statistics of acreage, production, and average yield given in Table 45 are somewhat fragmentary, but contain all of the data officially published. The statistics are taken in general from the Annuario statistico italiano, data prior to 1896 being taken from the issue for 1897, and subsequent data for wheat and corn (except area in 1896) from the Annuario for 1904.[a] Data for barley in 1896, and also the area of wheat and corn for that year, are derived from the French Statistique Agricole Annuelle for 1898; wheat area and production, 1904 and 1905, from Bollettino Ufficiale del Ministero d'Agricoltura, Industria e Commercio, anno V, Volume V, pages 238–239; corn, 1904 and 1905, from Bollettino di Legislazione e Statistico 1906, Vol. II, pages 197–199.[a]

Statistics of rye are not available since 1895 nor statistics of barley and oats since 1896. The figures used for barley in 1896 agree with those given in the Statistical Abstract of the United Kingdom for the Principal and Other Foreign Countries, No. 25, and the Austrian report, Das Getreide im Weltverkehr. Different figures (2,121,000 hectoliters, or 6,019,000 bushels) are given for the production of barley in 1896 in the Bollettino di Notizie Agrarie, February, 1901, page 105. The last-named source also contains the production of oats in 1896 (7,846,000 hectoliters, or 22,265,000 bushels), which has been excluded from the table.

The sowings of wheat and corn in 1901 and 1902 are shown in the Bollettino Ufficiale, anno II, Vol. IV, pages 678 and 1695. The quantity used for seed was estimated at 1.20 hectoliters per hectare (1.41 bushels per acre) in the case of wheat, and 0.50 hectoliter (0.59 bushel) in the case of corn.

[a] See also Bollettino Ufficiale del Ministero d'Agricoltura, Industria e Commercio, anno II, Vol. IV, pp. 678, 1695; anno IV, Vol. III, p. 41.

TABLE 45.—*Grain production of* ***Italy****, 1883–1905.*

Year.	Wheat.			Corn.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.a*	*Bushels.a*	*Acres.*	*Bushels.a*	*Bushels.a*
1883[b]	10,956,600	132,129,000	12.1	4,675,200	84,169,000	18.0
1884	.....	123,312,000	.....	.....	95,432,000	.....
1885	.....	117,035,000	.....	.....	84,175,000	.....
1886	.....	119,802,000	.....	.....	86,697,000	.....
1887	.....	126,232,000	.....	.....	83,533,000	.....
1888	.....	110,103,000	.....	.....	72,662,000	.....
1889	.....	108,942,000	.....	.....	82,061,000	.....
1890	10,889,900	131,442,000	12.1	4,724,600	74,966,000	15.9
1891	11,124,600	141,465,000	12.7	4,709,800	72,472,000	15.4
1892	11,193,800	115,685,000	10.3	4,702,400	72,131,000	15.3
1893	11,258,100	135,228,000	12.0	4,744,400	82,770,000	17.4
1894	11,302,500	121,595,000	10.8	4,697,400	59,603,000	12.7
1895	11,349,500	117,762,000	10.4	4,835,800	70,483,000	14.6
1896	11,319,800	145,233,000	12.8	4,833,400	79,910,000	16.5
1897	.....	86,919,000	.....	.....	65,891,000	.....
1898	.....	137,345,000	.....	.....	79,640,000	.....
1899	.....	137,912,000	.....	.....	88,536,000	.....
1900	.....	133,741,000	.....	.....	87,969,000	.....
1901	11,910,400	164,587,000	13.8	4,336,700	100,455,000	23.2
1902	11,737,400	136,210,000	11.6	4,200,800	71,028,000	16.9
1903	11,984,500	184,450,000	15.4	4,171,100	88,990,000	21.3
1904	13,336,200	167,635,000	12.6	4,796,800	93,640,000	19.5
1905	13,134,300	160,504,000	12.2	4,845,500	[c] 97,859,000	20.2

Year.	Oats.			Barley.			Rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.a*	*Bush.a*	*Acres.*	*Bushels.a*	*Bush.a*	*Acres.*	*Bushels.a*	*Bush.a*
1883[b]	1,079,900	18,391,000	17.0	835,200	10,925,000	13.1	395,400	5,221,000	13.2
1884	.....	16,164,000	.....	.....	9,736,000	.....	.....	4,753,000	.....
1885	.....	16,896,000	.....	.....	9,135,000	.....	.....	4,407,000	.....
1886	.....	15,897,000	.....	.....	9,424,000	.....	.....	4,563,000	.....
1887	.....	17,937,000	.....	.....	8,343,000	.....	.....	4,662,000	.....
1888	.....	15,196,000	.....	.....	7,421,000	.....	.....	3,927,000	.....
1889	.....	17,341,000	.....	.....	8,383,000	.....	.....	4,112,000	.....
1890	1,119,400	19,013,000	17.0	820,400	10,962,000	13.4	348,400	4,427,000	12.7
1891	1,107,000	19,889,000	18.0	761,100	9,694,000	12.7	350,900	4,580,000	13.1
1892	1,112,000	17,239,000	15.5	773,400	7,937,000	10.3	355,800	4,251,000	11.9
1893	1,131,700	18,246,000	16.1	798,100	7,923,000	9.9	358,300	4,498,000	12.6
1894	1,151,500	17,026,000	14.8	748,700	8,337,000	11.1	350,900	4,308,000	12.3
1895	1,171,300	19,194,000	16.4	733,900	7,435,000	10.1	338,600	4,010,000	11.8
1896	.....	.....	.....	761,100	10,057,000	13.2	.....	.....	.....

[a] Winchester bushels.
[b] Average, 1879–1883.
[c] For 12 provinces data not available and production statistics for the preceding year substituted.

NETHERLANDS.

High average yield and a small grain area are characteristic of Dutch agriculture. Rye and oats occupy a much larger area than wheat, and during the period covered by this bulletin show an increase in area of 50,000 and 30,000 acres, respectively, while wheat shows a decrease of over 60,000 acres.

The agricultural statistics for the Netherlands are published in a report entitled Verslag over den Landbouw in Nederland. This report was published in most years by the Ministry of Public Works, Commerce, and Industry; in other years by the Ministry of the Interior. The report named has not been published annually. The breaks that occur in the agricultural statistics as published in the Verslag have been supplied in some cases from the Jaarcijfers and the French Statistique Agricole Annuelle. In other cases, where the acreage and average yield, but not the total production, are shown,

the production has been calculated from the factors given. (See Table 46.)

The production of spelt in the Netherlands is so exceedingly small that the use of production statistics, rounded to thousand hectoliters, in calculating the average yield, is decidedly misleading. For this reason the average yield of spelt for 1887, 1888, 1890, and 1901, as given in Table 46, has been obtained by direct conversion of the average yield, as officially published in the Verslag, and not by dividing the area into the total production.

TABLE 46.—*Grain production of the* ***Netherlands****, 1883–1905.*

Year.	Wheat.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bush.*[a]	*Bush.*[a]	*Acres.*	*Bush.*[a]	*Bush.*[a]	*Acres.*	*Bush.*[a]	*Bush.*[a]
1883	214,100	5,631,000	26.3	.....	.....	.....	.....	.....	.....
1884	219,300	5,893,000	26.9	.....	.....	.....	.....	.....	.....
1885	209,500	6,334,000	30.2	.....	.....	.....	.....	.....	.....
1886	199,300	5,238,000	26.3	.....	.....	.....	.....	.....	.....
1887	210,500	6,890,000	32.7	.....	.....	.....	.....	.....	.....
1888	209,200	5,244,000	25.1	.....	.....	.....	.....	.....	.....
1889	211,000	6,474,000	30.7	.....	.....	.....	.....	.....	.....
1890	209,600	5,426,000	25.9	.....	.....	.....	.....	.....	.....
1891	144,800	3,504,000	24.2	.....	.....	.....	.....	.....	.....
1892	183,400	5,380,000	29.3	182,800	5,356,000	29.3	600	24,000	37.9
1893	175,000	4,971,000	28.4	174,900	4,968,000	28.4	100	3,000	25.4
1894	159,600	4,167,000	26.1	159,100	4,155,000	26.1	500	12,000	24.9
1895	152,900	4,281,000	28.0	152,300	4,267,000	28.0	600	14,000	25.0
1896	153,900	5,046,000	32.8	153,500	5,034,000	32.8	400	12,000	28.8
1897	153,700	4,290,000	27.9	152,800	4,264,000	27.9	900	26,000	29.2
1898	180,600	5,406,000	29.9	179,700	5,382,000	30.0	900	24,000	25.8
1899	177,500	5,096,000	28.7	176,900	5,075,000	28.7	600	21,000	33.8
1900	157,800	4,670,000	29.6	156,600	4,631,000	29.6	1,200	39,000	32.6
1901	134,600	4,231,000	31.4	131,300	4,118,000	31.4	3,300	[b] 113,000	34.2
1902	152,400	5,105,000	33.5	151,100	5,062,000	33.5	1,300	[b] 43,000	34.2
1903	137,200	4,258,000	31.0	128,900	3,959,000	30.7	8,300	[b] 299,000	35.8
1904	133,600	4,423,000	33.1	123,500	4,069,000	32.9	10,100	[b] 354,000	35.0
1905	150,700	5,078,000	33.7	145,600	4,887,000	33.6	5,100	[b] 191,000	37.2

Year.	Rye.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[a]	*Bush.*[a]	*Acres.*	*Bushels.*[a]	*Bush.*[a]	*Acres.*	*Bush.*[a]	*Bush.*[a]
1883	493,000	10,856,000	22.0	.....	.....	.....	.....	.....	.....
1884	498,500	10,601,000	21.3	.....	.....	.....	.....	.....	.....
1885	503,800	11,574,000	23.0	.....	.....	.....	.....	.....	.....
1886	503,400	10,715,000	21.3	.....	.....	.....	.....	.....	.....
1887	504,100	13,777,000	27.3	.....	.....	.....	.....	.....	.....
1888	500,200	9,867,000	19.7	.....	.....	.....	.....	.....	.....
1889	501,500	11,322,000	22.6	.....	.....	.....	.....	.....	.....
1890	503,100	11,112,000	22.1	.....	.....	.....	.....	.....	.....
1891	453,500	8,281,000	18.3	.....	.....	.....	.....	.....	.....
1892	495,800	12,434,000	25.1	484,900	12,192,000	25.1	10,900	242,000	22.2
1893	499,100	12,382,000	24.8	489,700	12,184,000	24.9	9,400	198,000	21.1
1894	514,700	12,317,000	23.9	506,200	12,145,000	24.0	8,500	172,000	20.1
1895	519,100	12,797,000	24.7	510,600	12,630,000	24.7	8,500	167,000	19.7
1896	531,100	13,571,000	25.6	523,400	13,417,000	25.6	7,700	154,000	20.0
1897	527,400	11,930,000	22.6	521,200	11,820,000	22.7	6,200	110,000	17.9
1898	530,100	13,664,000	25.8	524,400	13,546,000	25.8	5,700	118,000	20.8
1899	528,500	12,968,000	24.5	523,200	12,859,000	24.6	5,300	109,000	20.6
1900	528,900	13,644,000	25.8	524,100	13,538,000	25.8	4,800	106,000	22.4
1901	532,900	14,180,000	26.6	528,500	14,085,000	26.7	4,400	[b] 95,000	21.5
1902	539,300	13,971,000	25.9	535,000	13,873,000	25.9	4,300	[b] 98,000	22.7
1903	539,000	13,973,000	25.9	533,000	13,833,000	26.0	6,000	[b] 140,000	23.3
1904	534,000	13,517,000	25.3	526,000	13,333,000	25.3	8,000	[b] 184,000	23.0
1905	541,700	13,742,000	25.4	535,200	13,588,000	25.4	6,500	[b] 154,000	23.5

[a] Winchester bushels. [b] Calculated from area (carried out to the unit) and average yield.

TABLE 46.—*Grain production of the* ***Netherlands,*** *1883–1905*—Continued.

Year.	Barley.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.a*	*Bush.a*	*Acres.*	*Bushels.a*	*Bushels.a*	*Acres.*	*Bushels.a*	*Bushels.a*
1883	120,000	5,108,000	42.6	70,600	3,439,000	48.7	49,400	1,669,000	33.8
1884	116,400	4,887,000	42.0	76,200	3,520,000	46.2	40,200	1,367,000	34.0
1885	122,600	5,475,000	44.7	83,900	4,126,000	49.2	38,700	1,349,000	34.9
1886	110,100	4,711,000	42.8	69,100	3,242,000	46.9	41,000	1,469,000	35.8
1887	111,400	5,239,000	47.0	74,700	3,956,000	53.0	36,700	1,283,000	34.9
1888	111,100	4,260,000	38.3	73,500	3,011,000	40.9	37,600	1,249,000	33.2
1889	109,700	4,848,000	44.2	71,400	3,482,000	48.8	38,300	1,366 000	35.6
1890	104,400	4,155,000	39.8	70,400	2,997,000	42.6	34,000	1,158,000	34.1
1891	111,800	4,470,000	40.0	48,300	2,080,000	43.1	63,500	2,390,000	37.6
1892	107,700	4,985,000	46.3	67,300	3,402,000	50.6	40,400	1,583,000	39.1
1893	103,500	4,771,000	46.1	66,100	3,556,000	53.8	37,400	1,215,000	32.5
1894	94,900	3,618,000	38.2	62,100	2,545,000	41.0	32,800	1,073,000	32.7
1895	95,700	4,290,000	44.8	63,600	3,121,000	49.1	32,100	1,169,000	36.4
1896	97,200	4,561,000	47.0	69,700	3,498,000	50.2	27,500	1,063,000	38.7
1897	89,800	3,736,000	41.6	58,600	2,574,000	43.9	31,200	1,162,000	37.3
1898	87,000	3,821,000	43.9	62,100	2,851,000	45.9	24,900	970,000	39.0
1899	87,800	3,971,000	45.2	65,500	3,147,000	48.1	22,300	824,000	36.9
1900	94,400	4,584,000	48.5	70,100	3,646,000	52.0	24,300	938,000	38.6
1901	88,700	3,876,000	43.7	64,700	2,934,000	45.4	24,000	942,000	39.3
1902	90,100	4,651,000	51.6	69,500	3,803,000	54.7	20,600	848,000	41.1
1903	78,900	3,823,000	48.5	56,400	2,911,000	51.6	22,500	912,000	40.6
1904	76,300	3,606,000	47.2	47,400	2,383,000	50.3	28,900	1,223,000	42.3
1905	81,700	4,012,000	49.1	64,500	3,314,000	51.4	17,200	698,000	40.5

Year.	Oats.			Buckwheat.			Spelt.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.a*	*Bushels.a*	*Acres.*	*Bushels.a*	*Bushels.a*	*Acres.*	*Bushels.a*	*Bushels.a*
1883	295,200	11,436,000	38.7	133,400	2,592,000	19.4	316	13,600	43.0
1884	278,300	11,280,000	40.5	131,400	2,815,000	21.4	660	27,400	41.5
1885	283,100	13,039,000	46.1	127,700	1,315,000	10.3	724	36,000	49.7
1886	300,400	14,645,000	48.8	125,600	2,112,000	16.8	729	34,900	47.8
1887	285,300	12,125,000	42.5	118,800	1,212,000	10.2	551	28,000	50.8
1888	281,900	12,537,000	44.5	116,000	2,316,000	20.0	447	20,000	44.7
1889	284,100	13,377,000	47.1	114,700	2,386,000	20.8	452	21,900	48.4
1890	284,300	13,241,000	46.6	110,800	1,637,000	14.8	514	26,000	49.7
1891	377,400	18,533,000	49.1	107,600	1,584,000	14.7	168	6,800	40.8
1892	312,400	15,006,000	48.0	97,500	1,387,000	14.2	208	10,700	51.6
1893	312,200	12,330,000	39.5	94,100	1,552,000	16.5	299	15,800	52.7
1894	327,400	15,101,000	46.1	91,200	1,556,000	17.1	356	16,800	47.3
1895	323,700	15,525,000	48.0	87,800	1,767,000	20.1	381	20,100	52.7
1896	317,400	15,340,000	48.3	78,700	1,189,000	15.1	331	18,700	56.6
1897	331,400	16,125,000	48.7	77,200	1,582,000	20.5	334	17,200	51.6
1898	314,100	16,618,000	52.9	73,800	1,366,000	18.5	366	19,900	54.3
1899	316,800	16,061,000	50.7	71,700	1,223,000	17.1	420	25,400	60.4
1900	324,700	17,296,000	53.3	69,800	1,205,000	17.3	390	22,400	57.4
1901	334,400	18,485,000	55.3	66,900	970,000	14.5	371	23,000	62.0
1902	339,800	19,241,000	56.6	63,800	1,402,000	22.0	519	32,200	62.0
1903	357,100	20,112,000	56.3	58,700	1,353,000	23.1	657	35,700	54.4
1904	357,700	18,592,000	52.0	53,800	839,000	15.6	516	27,400	53.1
1905	325,800	16,045,000	49.3	51,400	1,167,000	22.7	571	30,200	52.9

[a] Winchester bushels.

NORWAY.

In Norway only one-half of 1 per cent of the total land surface is devoted to grain. This represents the smallest grain area relative to size of the country to be found in Europe. Oats and barley comprise together no less than 84 per cent of the total land under grain. Together wheat and rye occupied only 45,000 acres in 1900, the latest date for which statistics are available.

Statistics of acreage have appeared only at census [a] periods. The acreage of each crop for 1875, 1890, and 1900 is shown in Table 47.

Beginning with 1900 annual statistics of production are published by the Agricultural Department of Norway in its Aarsberetning. Prior to that time the only crop statistics are those shown in the censuses representing the average production for 1886–1890 and 1896–1900. For the five years 1881–1885 and 1891–1895 the average yield of each crop, but not the total production, has been ascertained and appears in Table 48.

TABLE 47.—*Area devoted to grain in* ***Norway,*** *1875, 1890, and 1900.*

Year.	Wheat.	Rye.	Barley.	Oats.	Maslin.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
1875	11,200	36,700	138,100	218,600	51,100
1890	10,800	34,000	127,900	241,800	35,100
1900	12,500	32,300	97,700	240,700	18,800

TABLE 48.—*Grain production of* ***Norway,*** *1881–1905.*

Year.	Wheat.		Rye.		Barley.	
	Production.	Average yield.	Production.	Average yield.	Production.	Average yield.
	Bushels.[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]
1881–1885	(*b*)	25.8	(*b*)	27.4	(*b*)	32.5
1886–1890 [c]	264,000	24.3	948,000	27.9	4,223,000	33.0
1891–1895	(*b*)	27.9	(*b*)	27.8	(*b*)	33.0
1896–1900 [d]	335,000	26.7	895,000	27.7	3,373,000	34.5
1900 [c]	(*e*)	.....	[f]1,196,000	26.7	3,922,000	30.7
1901 [c]	(*e*)	.....	[f]1,172,000	26.1	3,593,000	28.1
1902 [d]	265,000	21.1	776,000	24.0	2,143,000	21.9
1903 [d]	307,000	24.5	857,000	26.5	3,255,000	33.3
1904 [d]	212,000	16.9	717,000	22.2	2,496,000	25.5
1905 [d]	303,000	24.2	963,000	29.8	3,262,000	33.4

Year.	Oats.		Maslin.	
	Production.	Average yield.	Production.	Average yield.
	Bushels.[a]	*Bushels.*[a]	*Bushels.*[a]	*Bushels.*[a]
1881–1885	(*b*)	39.6	(*b*)	40.8
1886–1890 [c]	9,815,000	40.6	1,441,000	41.1
1891–1895	(*b*)	44.4	(*b*)	43.1
1896–1900 [d]	9,859,000	41.0	750,000	40.0
1900 [c]	9,516,000	39.4	1,451,000	41.4
1901 [c]	8,242,000	34.1	1,201,000	34.2
1902 [d]	6,674,000	27.7	457,000	24.4
1903 [d]	9,091,000	37.8	720,000	38.4
1904 [d]	6,922,000	28.8	572,000	30.5
1905 [d]	9,297,000	38.6	735,000	39.2

[a] Winchester bushels.
[b] Not estimated officially.
[c] Based on area in 1890.
[d] Based on area in 1900.
[e] Included in "Rye."
[f] Including wheat.

PORTUGAL.

The official crop statistics of Portugal are exceedingly fragmentary. The Annuario estatistico de Portugal for 1884 showed the production of wheat, corn, rye, barley, and oats in the Kingdom of Portugal, including the Azores and Madeira Islands, for the years 1882-1884.

[a] See Norges Jordbrug og Faedrift, published in the Norges Officielle Statistik.

These statistics were apparently collected from reports of the governors of the various provinces. In the Annuario estatistico for 1885 a similar statement was attempted for the next year, which was also accompanied by the area planted to each crop.

Since 1885 definite official statistics of production are not available. In later numbers of the Annuario (those for 1886, 1892, and 1900) statistics of area and crops do not appear.

Aside from the statistics just given, Table 49 is taken from the Annuario estatistico de Portugal, 1885. The statistics given in that report were obtained from reports received from the local administrations of the various districts (concelhos). For 1885, the only year in which acreage statistics were given at all, the returns, both of area and production, are far from complete. The provinces entirely omitted in that year comprised 24 per cent of the total land area of Portugal and produced in the preceding three years no less than 27 per cent of the total production of wheat, 17 per cent of barley, 16½ per cent of corn, 6 per cent of oats, and 3 per cent of rye. The acreage statistics are even more fragmentary, for in addition to the provinces which failed to make returns of production (Coimbra, Leiria, Lisbon, Santarem, and Horta), acreage statistics are also lacking for Vianna do Castello. For the last-named province the production of wheat in 1885 was returned as 67,165 bushels, corn 1,172,413 bushels, rye 110,421 bushels, barley 251 bushels, and oats 3,536 bushels. In computing the average yield per acre, the production of Vianna do Castello was deducted from the crop returns in order to make the latter comparable with the statistics of acreage.

TABLE 49.—*Area, 1885, and production, 1882–1885, of grain in* ***Portugal,*** *as officially returned.*

Grain.	Area, 1885 [a]	Production.				Average yield, 1885 [a]
		1882	1883	1884	1885 [a]	
		Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	659,100	6,345,000	6,135,000	6,195,000	4,213,000	6.3
Corn	730,300	13,380,000	15,248,000	14,752,000	13,499,000	16.9
Rye	675,800	4,882,000	4,833,000	4,815,000	5,100,000	7.4
Barley	312,900	2,240,000	2,174,000	1,939,000	1,448,000	4.6
Oats	381,000	834,000	1,129,000	1,018,000	947,000	2.5

[a] Statistics for 1885 are exclusive of Coimbra, Leiria, Lisbon, Santarem, and Horta, and, in the case of area and average yield, also exclusive of Vianna do Castello.

Several official works on Portugal, prepared for various international expositions, have attempted to picture with as great accuracy as possible, in the absence of definite returns, the importance of agriculture in the Kingdom. Table 50 shows the statistics presented at the Paris Exposition in 1889 and reprinted in the Report of the International Jury, prepared by Louis Grandeau,[a] and also in the general report of the exposition by Alfred Picard.[b]

[a] Annales de la science agronomique, 1891, Vol. 2, p. 163.

[b] Rapport général sur l'Exposition universelle de 1889, Vol. 8, pp. 441–442.

TABLE 50.—*Average area and production of grain in* ***Portugal.***

Grain.	Area.	Production.	Average yield.
	Acres.	*Bushels*	*Bushels.*
Wheat	642,000	8,513,000	13.3
Corn	1,285,000	20,227,000	15.7
Rye	667,000	6,640,000	10.0
Barley	143,000	1,986,000	13.9
Oats	30,000	426,000	14.4

These data, while perhaps representing in a fairly satisfactory manner the conditions at the time of the exposition, were in their essential features considerably older. Very similar figures as to the grain area and production of Portugal were presented at the Centennial Exposition in Philadelphia in 1876 and at the International Exposition at Paris in 1878.[a]

A later estimate of a similar character appears in the very comprehensive work of Da Costa and De Castro, Le Portugal au point de vue agricole, prepared for the Paris Exposition of 1900. This estimate, which is given in Table 51, is admittedly far from complete.

TABLE 51.—*Area and production of grain in* ***Portugal,*** *as estimated in 1900.*

Grain.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*
Wheat	568,000	6,426,000	11.3
Corn	1,050,000	19,979,000	19.0
Rye	741,000	6,992,000	9.4
Barley and oats	346,000	[a] 1,984,000	[a] 5.7

[a] Centals (100 pounds).

An estimate of the Portuguese crop for 1903, together with the acreage of grain in that year, appears in the Austro-Hungarian Consular Reports for 1904 (A, XIII, 1, p. 2), and forms the basis of Table 52.

TABLE 52.—*Area and production of grain in* ***Portugal,*** *1903.*

Grain.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*
Wheat	741,000	8,800,000	11.9
Corn	618,000	9,800,000	16.0
Rye	247,000	2,800,000	11.3
Barley	445,000	7,300,000	16.4
Oats	346,000	6,800,000	19.7

A comparison of the various statistics that have been quoted fails to disclose the agreement that is desirable, particularly in the case of barley and oats. It is even doubtful whether the table in the

[a] Portugal (International Exposition, 1876, Philadelphia), pp. XX, XXII, XXIII; Catalogue spécial de la section portugaise à l'Exposition universelle de Paris en 1878, pp. XXI, XXXIV.

Annuario estatistico possesses a greater accuracy than the others which are admittedly but the roughest of estimates. The former either considerably overstates the acreage cultivated or underrates the production, for the average yield shown, especially in the case of oats and barley, is incredibly low.

It is impossible from any of the statistics quoted to ascertain a general tendency in grain raising. From the work of Da Costa and De Castro it appears that wheat raising is considerably on the increase, and that rye growing is decreasing, while in the case of the other grains the changes are not sufficiently pronounced to make even the direction of the movement perfectly clear. Taking account of this statement and of the various estimates which have been quoted, it is assumed, for purposes of comparison (See Table 4, p. 15), that the area in wheat increased from 650,000 acres in 1885, to 750,000 acres in 1905; that the corn acreage remained constant at about 1,100,000 acres; the barley acreage at 250,000 acres, and the oat acreage at 200,000 acres; while the rye acreage decreased from 700,000 acres in 1885 to 650,000 acres in 1905. These figures, while laying no claim to precision, represent as nearly as can be ascertained the land in Portugal devoted to the various crops.

ROUMANIA.

Roumania has the distinction of possessing, relative to the size of the country, the largest and most rapidly extending grain area in Europe. As compared with 3,000,000 acres in 1886, wheat occupied in 1906 nearly 5,000,000 acres, while wheat production had increased from an annual average of 48,000,000 bushels in 1886–1890 to 76,000,000 bushels in 1901–1905. Of its total crop Roumania exports a larger proportion than any other European country. In 1886–1890 more than half the crop, and in 1901–1905 nearly half the crop, was shipped to foreign countries.

Table 53, showing the area, production, and average yield of each grain from 1886 to 1906, has been compiled from official statistics, published partly in Buletin Statistic General al Romaniei, Vol. III, pages 88–89, and later numbers, partly from the Anuarul Statistic al Romaniei, and partly from statements issued directly by the Ministry of Agriculture of Roumania.

TABLE 53.—*Grain production of* ***Roumania****, 1886–1906.*

Year.	Wheat.			Rye.			Barley.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.a*	*Bush.a*	*Acres.*	*Bushels.a*	*Bush.a*	*Acres.*	*Bushels.a*	*Bush.a*
1886	2,903,700	34,572,000	11.9	570,800	6,418,000	11.2	1,371,200	14,541,000	10.6
1887	2,791,500	47,477,000	17.0	586,600	7,611,000	13.0	1,504,600	18,673,000	12.4
1888	3,104,400	57,894,000	18.6	743,500	14,624,000	19.7	1,251,600	23,059,000	18.4
1889	3,310,900	49,999,000	15.1	424,500	5,751,000	13.5	1,263,900	15,756,000	12.5
1890	3,730,500	51,944,000	13.9	412,900	4,728,000	11.4	1,280,200	16,182,000	12.6
1891	3,811,600	48,539,000	12.7	301,200	3,883,000	12.9	1,299,500	22,233,000	17.1
1892	3,696,900	63,945,000	17.3	328,900	4,632,000	14.1	1,384,300	20,572,000	14.9
1893	3,221,200	60,745,000	18.9	353,400	7,702,000	21.8	1,467,600	35,743,000	24.4
1894	3,441,300	43,587,000	12.7	395,400	5,770,000	14.6	1,381,900	16,907,000	12.2
1895	3,553,400	68,502,000	19.3	537,600	9,254,000	17.2	1,365,600	22,388,000	16.4
1896	3,719,400	71,194,000	19.1	601,500	12,217,000	20.3	1,501,700	31,787,000	21.2
1897	3,941,500	36,448,000	9.2	582,600	6,794,000	11.7	1,673,400	21,225,000	12.7
1898	3,591,900	58,457,000	16.3	477,100	7,629,000	16.0	1,618,200	29,656,000	18.3
1899	4,105,300	26,064,000	6.3	467,900	1,988,000	4.2	1,578,200	4,543,000	2.9
1900	3,927,700	56,663,000	14.4	405,900	5,990,000	14.8	1,084,500	14,618,000	13.5
1901	4,044,000	72,386,000	17.9	522,400	9,573,000	18.3	1,244,700	24,222,000	19.5
1902	3,673,200	76,220,000	20.8	427,000	6,958,000	16.3	1,254,700	24,671,000	19.7
1903	3,967,600	73,700,000	18.6	390,500	7,145,000	18.3	1,311,900	29,716,000	22.7
1904	4,254,700	53,738,000	12.6	330,900	2,201,000	6.7	1,320,100	11,567,000	8.8
1905	4,838,900	103,328,000	21.4	398,300	7,344,000	33.7	1,306,600	26,383,000	21.9
1906	4,998,500	113,867,000	22.8	454,500	8,900,000	19.6	1,380,600	33,539,000	24.3

Year.	Corn.			Oats.			Millet.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.a*	*Bush.a*	*Acres.*	*Bushels.a*	*Bush.a*	*Acres.*	*Bushels.a*	*Bush.a*
1886	4,234,400	72,489,000	17.1	560,700	9,826,000	17.5	374,500	8,397,000	22.4
1887	4,560,600	48,689,000	10.7	582,200	12,317,000	21.2	309,100	1,032,000	3.3
1888	4,283,500	62,966,000	14.7	528,600	10,789,000	20.4	240,600	2,938,000	12.2
1889	4,435,800	69,251,000	15.6	483,800	6,576,000	13.6	254,400	1,487,000	5.8
1890	4,307,300	60,843,000	14.1	441,100	7,583,000	17.2	255,700	967,000	3.8
1891	4,184,200	59,860,000	14.3	456,900	7,718,000	16.9	253,700	2,306,000	9.1
1892	4,502,500	92,289,000	20.5	557,700	11,070,000	19.8	290,400	4,773,000	16.4
1893	4,544,700	72,810,000	16.0	622,300	15,456,000	24.8	263,100	2,885,000	11.0
1894	4,367,700	29,891,000	6.8	649,100	10,020,000	15.4	228,700	168,000	.7
1895	4,560,300	71,323,000	15.6	668,500	10,375,000	15.5	156,700	785,000	5.0
1896	4,791,500	65,428,000	13.7	696,500	14,720,000	21.1	175,300	1,369,000	7.8
1897	4,583,500	79,774,000	17.4	712,000	9,852,000	13.8	166,400	3,123,000	18.8
1898	5,238,800	101,907,000	19.5	756,000	17,410,000	23.0	231,800	2,831,000	12.2
1899	4,983,600	27,721,000	5.6	766,500	6,255,000	8.2	377,400	1,694,000	4.5
1900	5,029,200	85,047,000	16.9	630,800	8,704,000	13.8	411,500	2,158,000	5.2
1901	5,258,400	116,946,000	22.2	655,100	16,540,000	25.2	265,700	3,725,000	14.0
1902	5,391,500	68,447,000	12.7	793,500	21,905,000	27.6	243,400	1,463,000	6.0
1903	5,120,200	80,272,000	15.7	1,054,500	31,405,000	29.8	210,600	2,211,000	10.5
1904	5,173,800	19,598,000	3.8	1,052,000	12,608,000	12.0	189,200	60,000	.3
1905	4,882,200	59,275,000	12.1	921,000	18,974,000	20.6	97,800	398,000	4.1
1906	5,144,500	130,546,000	25.4	943,700	26,165,000	27.7	132,500	2,680,000	20.2

Year.	Buckwheat.		
	Area.	Production.	Average yield.
	Acres.	*Bushels.a*	*Bushels.a*
1898	3,200	36,700	11.5
1900	2,400	24,700	10.3
1901	4,900	33,200	6.8
1902	3,700	27,800	7.4
1903	3,700	26,800	7.3
1904	2,100	15,700	7.5
1905	2,700	15,600	5.8
1906	1,800	19,300	10.4

a Winchester bushels.

RUSSIA.

With its enormous extent, both in Europe and Asia, Russia produces nearly one-third of the total wheat produced in Europe. The production of rye is even greater, averaging in 1901–1905 no less than 866,000,000 bushels, and representing considerably more than one-half of the total production of Europe.

The great bulk of the rye crop is destined for use within the Empire, the net exports in 1901–1905 averaging only 7 per cent of the total crop. Wheat, on the other hand, is grown largely for exportation, about 24 per cent of the average crop being shipped to foreign countries.

The agricultural statistics of Russia at the present time by no means cover the entire area and crop of grains. Practically complete statistics are published for European Russia, but Transcaucasia is almost entirely omitted from the annual official estimates, and for Siberia and Central Asia the statistics are far from complete. In 1883–1887 no statistics of acreage or production for Poland were published; statistics for Northern Caucasia first appeared in 1892; estimates of production for Siberia (two provinces) were first made in 1893; in 1895 Central Asia and a third province of Siberia were added, in 1896 a fourth Siberian province, and in 1898 a small province in Transcaucasia.

Owing to the gradual expansion of area, it seems best to show in as great detail as possible the statistics, first, for the 50 provinces of European Russia, exclusive of Poland and northern Caucasia, for the entire period under review; secondly, the statistics for all European Russia, comprising in addition to the first statement statistics for the 10 provinces of Poland and 3 provinces of northern Caucasia; and, finally, beginning with 1893, statistics for total Russia, including all the Asiatic provinces for which statistics are published.

Prior to 1892 annual estimates of acreage are lacking. In Table 54 the acreage statistics of the most recent land census are inserted for 1883–1887 and for 1888–1891. The area so shown represents as nearly as can be ascertained the surface used by the Central Statistical Committee in making its crop estimates for the years in question. Prior to 1895 the original crop estimates were stated in measures of capacity (chetverts); in the report for 1895 the returns were published in weight (poods), and also the increase or decrease as compared with each of the preceding five years. From that report the production for 1890–1895 is taken; while the statistics for 1888 and 1889 are obtained from the crop report for 1891 and for the preceding period from Statistics of the Russian Empire, Volume IV. The acreage statistics are taken from the annual returns as far as they are available. For 1893 the data (except for spelt and millet), in the absence of the crop report for that year, are derived from the Annuaire of the Ministry of Finance for 1903. For 1887 the acreage statistics are taken from a secondary source (Chutrov and Posnikov), except for Poland, for which the returns were published in Statistics of the Russian Empire, Volume XXIII. Aside from the specific references given, the statistics in Table 54 are derived from the annual crop reports (Urozhaĭ), published in Russian, or their summaries in French (Résultats généraux de la récolte).

A country producing such enormous crops as Russia of necessity uses a large amount for seed. The Russian agricultural statistics fail to show the aggregate sowings since 1887, but instead show the net production, which is equivalent to the total production less the sowings. From these data the sowings shown in Table 55 have been compiled.

TABLE 54.—*Grain production of* ***Russia,*** *1883–1906.*

EUROPEAN RUSSIA, EXCLUSIVE OF POLAND AND NORTHERN CAUCASIA.

Year.	Wheat.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1883	28,879,300	226,823,000	7.9	6,743,900	54,795,000	8.1	22,135,400	172,028,000	7.8
1884		267,478,000	9.3		79,872,000	11.8		187,606,000	8.5
1885		178,108,000	6.2		77,239,000	11.5		100,869,000	4.6
1886		163,477,000	5.7		40,273,000	6.0		123,204,000	5.6
1887		278,736,000	9.7		98,895,000	14.7		179,841,000	8.1
1888	30,601,300	313,978,000	10.3	7,406,600	123,244,000	16.6	23,194,700	190,734,000	8.2
1889		197,910,000	6.5		42,482,000	5.7		155,428,000	6.7
1890		200,126,000	6.5		75,450,000	10.2		124,676,000	5.4
1891		160,539,000	5.2		56,278,000	7.6		104,261,000	4.5
1892	32,440,700	230,794,000	7.1	8,337,300	65,049,000	7.8	24,103,400	165,745,000	6.9
1893	32,434,000	353,695,000	10.9	6,285,900	78,409,000	12.5	26,148,100	275,286,000	10.5
1894	32,852,200	339,667,000	10.3	7,712,100	102,620,000	13.3	25,140,100	237,047,000	9.4
1895	31,894,300	292,272,000	9.2	7,592,400	101,302,000	13.3	24,301,900	190,970,000	7.9
1896	34,848,300	300,422,000	8.6	7,517,500	78,997,000	10.5	27,330,800	221,425,000	8.1
1897	35,606,400	238,556,000	6.7	7,173,800	51,261,000	7.1	28,432,600	187,295,000	6.6
1898	36,007,500	334,246,000	9.3	7,461,200	95,319,000	12.8	28,546,300	238,927,000	8.4
1899	38,045,200	314,877,000	8.3	7,374,400	98,519,000	13.4	30,670,800	216,358,000	7.1
1900	39,966,900	319,194,000	8.0	7,721,700	75,361,000	9.8	32,245,200	243,833,000	7.6
1901	41,921,000	319,991,000	7.6	8,039,400	121,477,000	15.1	33,881,600	198,514,000	5.9
1902	42,590,200	463,259,000	10.9	8,495,800	146,554,000	17.3	34,094,400	316,705,000	9.3
1903	43,753,200	454,597,000	10.4	8,770,800	128,020,000	14.6	34,982,400	326,577,000	9.3
1904	45,635,300	519,966,000	11.4	8,402,800	124,649,000	14.8	37,232,500	395,317,000	10.6
1905	48,071,200	451,328,000	9.4	9,221,300	131,287,000	14.2	38,849,900	320,041,000	8.2
1906	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	*b*192,646,000	(*a*)
EUROPEAN RUSSIA (TOTAL *c*).									
1888	31,524,600	328,352,000	10.4	8,299,300	137,363,000	16.6	23,225,300	190,989,000	8.2
1889		207,965,000	6.6		52,372,000	6.3		155,593,000	6.7
1890		212,320,000	6.7		87,397,000	10.5		124,923,000	5.4
1891		172,720,000	5.5		68,235,000	8.2		104,485,000	4.5
1892	*d*33,916,500	324,246,000	*d* 7.5	*d* 9,783,200	142,239,000	*d* 9.0	*d*24,133,300	182,007,000	*d* 6.9
1893	*d*33,818,300	441,313,000	*d* 11.1	*d* 7,645,600	144,200,000	*d* 12.9	*d*26,172,700	297,113,000	*d* 10.5
1894	39,711,200	418,095,000	10.5	12,954,500	162,649,000	12.6	26,756,700	255,446,000	9.5
1895	38,872,400	376,787,000	9.7	12,899,700	170,525,000	13.2	25,972,700	206,262,000	7.9
1896	41,635,000	365,048,000	8.8	12,719,500	130,089,000	10.2	28,915,500	234,959,000	8.1
1897	42,406,000	286,248,000	6.8	12,300,000	90,796,000	7.4	30,106,000	195,452,000	6.5
1898	42,481,100	408,093,000	9.6	12,384,100	153,798,000	12.4	30,097,000	254,295,000	8.4
1899	45,305,400	393,623,000	8.7	12,776,900	162,617,000	12.7	32,528,500	231,006,000	7.1
1900	47,503,400	395,767,000	8.3	13,387,200	134,778,000	10.1	34,116,200	260,989,000	7.6
1901	49,574,800	401,534,000	8.1	13,807,200	184,194,000	13.3	35,767,600	217,340,000	6.1
1902	50,698,700	560,614,000	11.1	14,606,400	219,973,000	15.1	36,092,300	340,641,000	9.4
1903	52,227,000	551,730,000	10.6	15,037,800	200,080,000	13.3	37,189,200	351,650,000	9.5
1904	54,343,500	622,256,000	11.5	14,881,200	205,764,000	13.8	39,462,300	416,492,000	10.6
1905	56,928,700	568,278,000	10.0	15,741,800	219,887,000	14.0	41,186,900	348,389,000	8.5
1906	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	*b*212,909,000	(*a*)
TOTAL RUSSIA.*e*									
1893	(*f*)	459,832,000	(*f*)	(*f*)	144,201,000	(*f*)	(*f*)	315,631,000	(*f*)
1894	41,602,500	448,701,000	10.8	12,956,700	162,651,000	12.6	28,645,800	286,050,000	10.0
1895	42,233,100	413,342,000	9.8	12,905,000	170,589,000	13.2	29,328,100	242,753,000	8.3
1896	45,868,900	412,038,000	9.0	12,742,000	130,333,000	10.2	33,126,900	281,705,000	8.5
1897	46,733,200	340,171,000	7.3	12,325,300	91,047,000	7.4	34,407,900	249,124,000	7.2
1898	47,018,500	459,289,000	9.8	12,420,800	154,180,000	12.4	34,597,700	305,109,000	8.8
1899	49,742,600	454,146,000	9.1	12,801,300	162,961,000	12.7	36,941,300	291,185,000	7.9
1900	52,313,100	422,994,000	8.1	13,409,900	134,999,000	10.1	38,903,200	287,995,000	7.4
1901	54,305,900	427,782,000	7.9	13,838,300	184,543,000	13.3	40,467,600	243,239,000	6.0
1902	55,112,100	607,370,000	11.0	14,635,700	220,250,000	15.0	40,476,400	387,120,000	9.6
1903	57,220,900	621,459,000	10.9	15,060,700	200,375,000	13.3	42,160,200	421,084,000	10.0
1904	59,186,200	666,751,000	11.3	14,909,900	206,104,000	13.8	44,276,300	460,647,000	10.4
1905	62,208,300	636,286,000	10.2	15,771,900	220,305,000	14.0	46,436,400	415,981,000	9.0
1906	(*a*)	*b*506,411,000	(*a*)	(*a*)	238,521,000	(*a*)	(*a*)	*b*267,890,000	(*a*)

a Data not available.
b Preliminary.
c In 1888–1891 exclusive of Northern Caucasia.
d Exclusive of Northern Caucasia; in calculating the average yield the crops of Northern Caucasia have likewise been deducted from the statistics of production here shown. In the case of winter rye the area and average yield shown in 1893 include spring rye in Poland.
e In 1893–1894 including two provinces in Asia, in 1895–1897 eight provinces in Asia, and subsequently nine provinces in Asia.
f Statistics corresponding to those of production not available.

TABLE 54.—*Grain production of* ***Russia****, 1883–1906*—Continued.

EUROPEAN RUSSIA, EXCLUSIVE OF POLAND AND NORTHERN CAUCASIA.

Year.	Rye.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1883		548,909,000	8.5						
1884		688,728,000	10.7						
1885	64,604,600	701,522,000	10.9						
1886		662,778,000	10.3						
1887		744,292,000	11.5						
1888		752,941,000	10.9						
1889	68,936,000	572,998,000	8.3						
1890		635,011,000	9.2	67,393,200	627,841,000	9.3	1,542,800	7,170,000	4.6
1891		469,965,000	6.8		462,423,000	6.9		7,542,000	4.9
1892	63,200,300	556,355,000	8.8	62,331,900	549,998,000	8.8	868,400	6,357,000	7.3
1893	61,961,900	685,795,000	11.1	60,757,600	676,615,000	11.1	1,204,300	9,180,000	7.6
1894	63,230,200	810,070,000	12.8	62,510,500	802,849,000	12.8	719,700	7,221,000	10.0
1895	62,595,300	717,966,000	11.5	61,899,800	711,335,000	11.5	695,500	6,631,000	9.5
1896	64,238,400	700,984,000	10.9	63,622,800	695,880,000	10.9	615,600	5,104,000	8.3
1897	62,646,600	567,467,000	9.1	62,062,700	563,367,000	9.1	583,900	4,100,000	7.0
1898	62,283,400	636,469,000	10.2	61,624,600	630,763,000	10.2	658,800	5,706,000	8.7
1899	63,405,600	805,232,000	12.7	62,815,700	800,511,000	12.7	589,900	4,721,000	8.0
1900	65,738,400	828,818,000	12.6	65,168,000	824,231,000	12.6	570,400	4,587,000	8.0
1901	65,950,300	680,207,000	10.3	65,294,200	675,480,000	10.3	656,100	4,727,000	7.2
1902	65,871,400	810,540,000	12.3	65,331,200	805,855,000	12.3	540,200	4,685,000	8.7
1903	66,511,200	803,298,000	12.1	65,904,000	797,781,000	12.1	607,200	5,517,000	9.1
1904	65,643,600	893,207,000	13.6	65,028,400	887,470,000	13.6	615,200	5,737,000	9.3
1905	64,689,600	629,672,000	9.7	64,156,600	624,822,000	9.7	533,000	4,850,000	9.1
1906	(a)	(a)	(a)	(a)	(a)	(a)	(a)	b 4,312,000	(a)

EUROPEAN RUSSIA (TOTAL c).

1888		800,825,000	10.9						
1889		610,742,000	8.3						
1890	73,302,800	679,942,000	9.3	71,659,000	672,023,000	9.4	1,643,800	7,919,000	4.8
1891		510,379,000	7.0		502,126,000	7.0		8,253,000	5.0
1892	d 67,887,900	628,310,000	d 9.1	d 66,952,000	621,289,000	d 9.1	d 935,900	7,021,000	d 7.5
1893	d 66,428,300	752,383,000	d 11.2	d 65,224,000	742,246,000	d 11.3	e 1,204,300	10,137,000	e 7.6
1894	68,301,500	871,134,000	12.8	67,512,900	863,181,000	12.8	788,600	7,953,000	10.1
1895	67,719,900	783,664,000	11.6	66,964,900	776,422,000	11.6	755,000	7,242,000	9.6
1896	69,643,400	767,413,000	11.0	68,965,300	761,684,000	11.0	678,100	5,729,000	8.4
1897	68,005,100	625,454,000	9.2	67,363,600	620,837,000	9.2	641,500	4,617,000	7.2
1898	67,650,100	714,064,000	10.6	66,936,800	707,736,000	10.6	713,300	6,328,000	8.9
1899	68,831,300	880,437,000	12.8	68,182,500	875,017,000	12.8	648,800	5,420,000	8.4
1900	71,293,700	903,926,000	12.7	70,668,500	898,719,000	12.7	625,200	5,207,000	8.3
1901	71,562,800	738,907,000	10.3	70,830,800	733,446,000	10.4	732,000	5,461,000	7.5
1902	71,684,700	894,442,000	12.5	71,077,600	888,977,000	12.5	607,100	5,465,000	9.0
1903	72,372,900	879,885,000	12.2	71,703,900	873,742,000	12.2	669,000	6,143,000	9.2
1904	71,324,400	977,982,000	13.7	70,652,800	971,695,000	13.8	671,600	6,287,000	9.4
1905	70,406,700	708,694,000	10.6	69,832,800	703,399,000	10.1	573,900	5,295,000	9.2
1906	(a)	(a)	(a)	(a)	(a)	(a)	(a)	b 4,983,000	(a)

TOTAL RUSSIA.c

1893	(f)	765,080,000	(f)	(f)	749,075,000	(f)	(f)	16,005,000	(f)
1894	70,008,400	887,087,000	12.7	68,623,400	870,925,000	12.7	1,385,000	16,162,000	11.7
1895	70,366,500	801,279,000	11.4	68,497,300	784,923,000	11.5	1,869,200	16,356,000	8.8
1896	72,258,600	789,561,000	10.9	70,397,200	773,014,000	11.0	1,861,400	16,547,000	8.9
1897	70,453,300	654,281,000	9.3	68,695,800	636,145,000	9.3	1,757,500	18,136,000	10.3
1898	70,074,400	737,500,000	10.5	68,259,700	720,992,000	10.6	1,814,700	16,508,000	9.1
1899	71,214,100	911,633,000	12.8	69,474,400	892,314,000	12.8	1,739,700	19,319,000	11.1
1900	73,494,000	920,134,000	12.5	71,789,200	907,542,000	12.6	1,704,800	12,592,000	7.4
1901	73,841,500	754,927,000	10.2	72,008,600	743,158,000	10.3	1,832,900	11,769,000	6.4
1902	73,933,300	919,019,000	12.4	72,389,900	904,993,000	12.5	1,543,400	14,026,000	9.1
1903	74,957,200	911,944,000	12.2	73,197,900	892,231,000	12.2	1,759,300	19,713,000	11.2
1904	74,092,600	1,008,440,000	13.6	72,334,300	990,497,000	13.7	1,758,300	17,943,000	10.2
1905	72,827,000	737,443,000	10.1	71,265,600	720,855,000	10.1	1,561,400	16,588,000	10.6
1906	(a)	668,973,000	(a)	(a)	b 650,907,000	(a)	(a)	b 18,066,000	(a)

a Data not available.
b Preliminary.
c In 1888–1891 exclusive of Northern Caucasia.
d Exclusive of Northern Caucasia; in calculating the average yield, the crops of Northern Caucasia have likewise been deducted from the statistics of production here shown. In the case of winter rye, the area and average yield shown in 1893 include spring rye in Poland.
e Exclusive of Poland as well as Northern Caucasia.
f Statistics corresponding to those of production not available.

TABLE 54.—*Grain production of* ***Russia****, 1883–1906*—Continued.

EUROPEAN RUSSIA, EXCLUSIVE OF POLAND AND NORTHERN CAUCASIA.

Year.	Barley.			Oats.			Corn.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1883		135,797,000	10.9		574,255,000	16.5		19,541,000	13.1
1884		134,226,000	10.8		499,861,000	14.3		16,347,000	11.0
1885	12,441,600	100,170,000	8.1	34,882,800	389,019,000	11.2	1,487,800	17,331,000	11.6
1886		133,500,000	10.7		569,643,000	16.3		22,770,000	15.3
1887		167,864,000	13.5		618,418,000	17.7		13,001,000	8.7
1888		183,468,000	12.7		565,136,000	15.4		28,022,000	
1889	14,397,800	128,670,000	8.9	36,590,800	522,259,000	14.3	(*a*)	15,294,000	(*a*)
1890		158,331,000	11.0		575,694,000	15.7		25,231,000	
1891		135,927,000	9.4		454,728,000	12.4		30,121,000	
1892	15,485,900	169,477,000	10.9	34,100,200	467,324,000	13.7		22,533,000	
1893	15,787,200	297,294,000	18.8	33,138,000	703,255,000	21.2	2,258,600	40,708,000	18.0
1894	15,756,200	237,085,000	15.0	32,846,500	702,336,000	21.4	2,089,600	19,360,000	9.3
1895	15,808,600	210,223,000	13.3	33,973,300	673,980,000	19.8	1,917,600	24,941,000	13.0
1896	16,860,000	208,450,000	12.4	35,571,600	668,974,000	18.8	2,184,000	17,163,000	7.9
1897	17,218,800	203,363,000	11.8	36,206,500	547,325,000	15.1	2,211,500	45,488,000	20.6
1898	17,589,800	254,702,000	14.5	35,658,500	559,921,000	15.7	2,351,600	39,530,000	16.8
1899	17,460,300	179,851,000	10.3	36,112,400	839,641,000	23.3	2,406,100	22,641,000	9.4
1900	17,585,400	187,230,000	10.6	37,399,300	744,039,000	19.9	2,709,400	25,570,000	9.4
1901	18,128,100	189,435,000	10.4	37,999,800	527,577,000	13.9	2,701,100	60,771,000	22.5
1902	18,224,400	274,900,000	15.1	37,252,400	807,890,000	21.7	2,860,700	40,378,000	14.1
1903	19,247,000	289,700,000	15.1	37,590,400	650,407,000	17.3	2,760,000	40,397,000	14.6
1904	20,069,200	290,766,000	14.5	37,783,100	1,006,104,000	26.6	2,901,300	18,956,000	6.5
1905	20,236,000	272,694,000	13.5	38,605,700	767,551,000	19.9	2,870,400	22,533,000	7.9
1906	(*b*)	*c* 243,621,000	(*b*)	(*b*)	*c* 544,874,000	(*b*)	(*b*)	*c* 59,320,000	(*b*)

EUROPEAN RUSSIA (TOTAL *d*).

1888		195,064,000	12.8		599,518,000	15.5		28,022,000	
1889	15,196,400	136,455,000	9.0	38,799,900	544,001,000	14.0	(*a*)	15,294,000	(*a*)
1890		170,720,000	11.2		614,578,000	15.8		25,231,000	
1891		147,096,000	9.7		489,786,000	12.6		30,121,000	
1892	*c* 16,609,000	210,239,000	*c* 11.4	36,797,200	533,877,000	*c* 14.0		26,585,000	
1893	*c* 16,857,300	337,997,000	*c* 18.7	35,660,700	762,752,000	*c* 21.0	*c* 2,258,600	45,361,000	*c* 18.0
1894	18,002,100	274,226,000	15.2	35,863,300	762,392,000	21.3	2,376,500	23,275,000	9.8
1895	18,153,600	246,532,000	13.6	37,118,400	732,074,000	19.7	2,296,800	31,693,000	13.8
1896	19,288,500	244,480,000	12.7	38,834,300	728,969,000	18.8	2,552,300	23,773,000	9.3
1897	19,749,500	230,451,000	11.7	39,427,900	595,604,000	15.1	2,594,500	51,916,000	20.0
1898	20,080,800	299,283,000	14.9	38,779,000	627,835,000	16.2	2,776,700	47,757,000	17.2
1899	20,012,800	218,080,000	10.9	39,257,400	908,640,000	23.1	2,875,900	30,750,000	10.7
1900	20,271,000	232,746,000	11.5	40,663,100	812,781,000	20.0	3,258,100	34,056,000	10.5
1901	21,004,300	235,754,000	11.2	41,427,000	595,649,000	14.4	3,145,800	68,187,000	21.7
1902	21,357,300	332,611,000	15.6	40,754,200	887,159,000	21.8	3,351,100	48,419,000	14.4
1903	22,634,600	350,487,000	15.5	41,179,600	728,051,000	17.7	3,322,900	50,464,000	15.2
1904	23,583,700	339,717,000	14.4	41,457,800	1,065,071,000	25.7	3,533,300	25,920,000	7.3
1905	23,742,200	338,837,000	14.3	42,169,700	851,669,000	20.2	3,501,300	33,331,000	9.5
1906	(*b*)	*c* 304,277,000	(*b*)	(*b*)	*c* 633,231,000	(*b*)	(*b*)	*c* 70,501,000	(*b*)

TOTAL RUSSIA.*f*

1893	(*a*)	340,879,000	(*a*)	(*a*)	726,753,000	(*a*)	(*a*)	45,361,000	(*a*)
1894	18,227,800	279,122,000	15.3	37,291,400	808,838,000	21.7	2,376,500	23,275,000	9.8
1895	18,570,500	252,855,000	13.6	39,371,300	779,458,000	19.8	2,296,800	31,693,000	13.8
1896	19,836,700	253,630,000	12.8	41,567,300	799,833,000	19.2	2,552,300	23,773,000	9.3
1897	20,258,500	238,651,000	11.8	42,218,000	663,714,000	15.7	2,596,300	51,966,000	20.0
1898	20,605,000	306,922,000	14.9	41,653,000	687,534,000	16.5	2,786,900	47,918,000	17.2
1899	20,484,200	226,909,000	11.1	42,142,200	995,307,000	23.6	2,885,700	30,912,000	10.7
1900	20,747,000	236,981,000	11.4	43,847,500	853,697,000	19.5	3,268,500	34,257,000	10.5
1901	21,461,500	239,917,000	11.1	44,487,500	624,098,000	14.0	3,157,900	68,401,000	21.7
1902	21,719,100	338,251,000	15.6	43,169,000	930,679,000	21.6	3,363,000	48,649,000	14.5
1903	23,014,700	357,471,000	15.5	43,846,100	799,785,000	18.2	3,336,800	50,761,000	15.2
1904	24,024,700	346,255,000	14.4	44,416,700	1,124,266,000	25.3	3,549,000	26,068,000	7.3
1905	24,206,600	346,966,000	14.3	45,263,800	936,665,000	20.7	3,515,800	33,587,000	9.6
1906	(*b*)	*c* 312,040,000	(*b*)	(*b*)	*c* 712,945,000	(*b*)	(*b*)	*c* 70,760,000	(*b*)

a Statistics corresponding to those of production not available.
b Data not available.
c Preliminary.
d In 1888–1891 exclusive of Northern Caucasia.
e Exclusive of Northern Caucasia; in calculating the average yield, the crops of Northern Caucasia have likewise been deducted from the statistics of production here shown. In the case of winter rye, the area and average yield shown in 1893 include spring rye in Poland.
f In 1893–1894 including two provinces in Asia, in 1895–1897 eight provinces in Asia, and subsequently nine provinces in Asia.

TABLE 54.—*Grain production of* ***Russia,*** *1883–1906*—Continued.

EUROPEAN RUSSIA, EXCLUSIVE OF POLAND AND NORTHERN CAUCASIA.

Year.	Buckwheat.			Spelt (emmer).			Millet.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1883		79,502,000	8.0		13,365,000	14.4		52,090,000	7.9
1884		69,204,000	7.0		11,856,000	12.8		46,226,000	7.0
1885	9,892,800	43,112,000	4.4	927,300	8,406,000	9.1	6,578,900	23,475,000	3.6
1886		79,849,000	8.1		10,814,000	11.7		64,109,000	9.7
1887		62,378,000	6.3		9,129,000	9.8		52,471,000	8.0
1888		55,236,000			12,722,000			58,304,000	
1889		57,203,000			14,158,000			35,044,000	
1890	(*a*)	38,386,000	(*a*)	(*a*)	12,018,000	(*a*)	(*a*)	54,138,000	(*a*)
1891		34,950,000			6,758,000			36,719,000	
1892		40,413,000			8,748,000			60,983,000	
1893	6,333,900	44,502,000	7.0		14,135,000			85,786,000	
1894	5,993,700	37,187,000	6.2	986,100	14,709,000	15.0	6,396,400	46,776,000	7.3
1895	5,738,100	36,445,000	6.4	1,032,700	14,454,000	14.0	5,863,900	43,192,000	7.4
1896	5,977,800	39,885,000	6.7	1,144,300	20,860,000	18.2	5,891,200	81,255,000	13.8
1897	5,874,100	34,829,000	5.9	1,154,300	14,281,000	12.4	6,165,100	47,189,000	7.7
1898	5,680,300	39,822,000	7.0	1,146,500	5,490,000	4.8	6,272,000	65,442,000	10.4
1899	5,792,600	49,549,000	8.6	715,000	17,204,000	24.1	6,682,500	74,818,000	11.2
1900	5,728,500	37,106,000	6.5	1,048,100	14,875,000	14.2	6,438,900	56,600,000	8.8
1901	5,622,900	31,831,000	5.7	1,075,100	6,607,000	6.1	6,394,400	53,050,000	8.3
1902	5,362,300	56,882,000	10.6	935,700	13,553,000	14.5	6,838,100	101,594,000	14.9
1903	5,533,400	35,221,000	6.4	971,400	8,725,000	9.0	6,976,500	63,496,000	9.1
1904	5,350,400	41,779,000	7.8	1,136,500	28,878,000	25.4	7,049,700	48,135,000	6.8
1905	5,115,300	41,040,000	8.0	1,181,100	19,392,000	16.4	6,306,800	50,360,000	8.0
1906	(*b*)	[c]38,037,000	(*b*)	(*b*)	[c]4,165,000	(*b*)	(*b*)	[c]51,859,000	(*b*)

EUROPEAN RUSSIA (TOTAL[d]).

1888		58,541,000			12,722,000			59,274,000	
1889		60,662,000			14,158,000			36,037,000	
1890	(*a*)	41,395,000	(*a*)	(*a*)	12,018,000	(*a*)	(*a*)	55,271,000	(*a*)
1891		37,944,000			6,758,000			37,683,000	
1892		43,551,000			8,748,000			66,700,000	
1893	6,679,200	47,847,000	7.1		14,167,000			94,327,000	
1894	6,333,900	40,454,000	6.4	993,500	14,813,000	14.9	6,994,700	51,821,000	7.4
1895	6,059,400	39,272,000	6.5	1,036,300	14,557,000	14.0	6,625,900	54,383,000	8.2
1896	6,306,300	42,662,000	6.8	1,148,800	20,957,000	18.2	6,642,800	93,841,000	14.1
1897	6,211,100	37,982,000	6.1	1,168,000	14,489,000	12.4	6,919,900	53,412,000	7.7
1898	6,020,500	43,166,000	7.2	1,162,700	5,867,000	5.0	6,993,700	76,970,000	11.0
1899	6,125,200	52,110,000	8.5	745,000	17,991,000	24.1	7,436,500	83,866,000	11.3
1900	6,064,900	40,377,000	6.7	1,072,500	15,426,000	14.4	7,264,600	67,510,000	9.3
1901	5,972,300	35,510,000	5.9	1,100,900	7,173,000	6.5	7,264,800	60,829,000	8.4
1902	5,710,100	60,384,000	10.6	963,100	14,135,000	14.7	7,649,900	109,675,000	14.3
1903	5,863,100	38,444,000	6.6	998,500	9,304,000	9.3	7,838,700	75,309,000	9.6
1904	5,651,900	43,661,000	7.7	1,175,200	29,630,000	25.2	7,992,900	53,645,000	6.7
1905	5,403,700	44,886,000	8.3	1,194,900	19,708,000	16.5	7,103,800	60,382,000	8.5
1906	(*b*)	[c]41,108,000	(*b*)	(*b*)	[c]4,384,000	(*b*)	(*b*)	[c]64,450,000	(*b*)

TOTAL RUSSIA.[e]

1893	(*a*)	48,707,000	(*a*)	(*a*)	14,342,000	(*a*)	(*a*)	95,202,000	(*a*)
1894	6,423,200	40,410,000	6.3	1,002,400	15,009,000	15.0	7,080,300	52,877,000	7.5
1895	6,170,200	39,976,000	6.5	1,047,900	14,880,000	14.2	6,870,600	57,561,000	8.4
1896	6,409,600	43,683,000	6.8	1,167,800	21,396,000	18.3	7,171,500	101,080,000	14.1
1897	6,308,400	38,993,000	6.2	1,183,900	14,869,000	12.6	7,424,200	57,948,000	7.8
1898	6,112,700	43,952,000	7.2	1,178,200	6,187,000	5.3	7,434,800	84,302,000	11.3
1899	6,220,000	53,309,000	8.6	761,600	18,407,000	24.2	7,934,300	89,551,000	11.3
1900	6,164,700	41,233,000	6.7	1,093,000	15,684,000	14.3	7,713,900	73,125,000	9.5
1901	6,086,500	36,041,000	5.9	1,118,900	7,274,000	6.5	7,748,900	65,554,000	8.5
1902	5,838,100	61,295,000	10.5	974,700	14,350,000	14.7	8,239,400	117,616,000	14.3
1903	6,013,000	39,829,000	6.6	1,013,400	9,596,000	9.5	8,477,200	82,634,000	9.7
1904	5,799,600	45,010,000	7.8	1,190,300	29,929,000	25.1	8,610,400	59,218,000	6.9
1905	5,526,900	46,342,000	8.4	1,206,000	19,990,000	16.6	7,699,500	70,556,000	9.2
1906	(*b*)	[c]42,542,000	(*b*)	(*b*)	[c]4,619,000	(*b*)	(*b*)	[c]70,033,000	(*b*)

[a] Statistics corresponding to those of production not available.
[b] Data not available.
[c] Preliminary.
[d] In 1888–1891 exclusive of Northern Caucasia.
[e] In 1893–1894 including two provinces in Asia, in 1895–1897 eight provinces in Asia, and subsequently nine provinces in Asia.

TABLE 55.—*Sowings of grain in* ***Russia.***

EUROPEAN RUSSIA, EXCLUSIVE OF POLAND AND NORTHERN CAUCASIA.

Year.	Wheat.		Rye.		Corn.	Spelt.	Buck-wheat.	Barley.	Oats.
	Winter.	Spring.	Winter.	Spring.					
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1883	13,131,000	36,989,000	143,847,000	(a)	726,000	3,205,000	21,443,000	30,246,000	176,143,000
1884	13,358,000	37,426,000	144,715,000	(a)	730,000	3,033,000	21,228,000	30,177,000	157,338,000
1885	13,372,000	37,324,000	144,549,000	(a)	720,000	2,998,000	21,259,000	30,253,000	157,992,000
1886	13,233,000	35,668,000	143,280,000	(a)	724,000	3,031,000	21,132,000	29,806,000	156,020,000
1887	13,333,000	35,641,000	143,440,000	(a)	718,000	2,984,000	21,244,000	29,759,000	156,297,000
1888									
1889	15,341,000	62,202,000	189,693,000	(a)	4,468,000	6,311,000	20,593,000	47,798,000	163,923,000
1890	13,425,000	36,496,000	141,856,000	(a)	919,000	4,350,000	15,589,000	31,832,000	169,813,000
1891	13,178,000	36,182,000	140,172,000	(a)	818,000	4,461,000	14,591,000	31,078,000	168,738,000
1892	15,199,000	35,753,000	130,315,000	(a)	1,176,000	3,994,000	12,179,000	33,495,000	158,288,000
1893									
1894	14,261,000	36,106,000	130,832,000	1,307,000	1,027,000	3,571,000	11,019,000	34,670,000	152,936,000
1895	13,720,000	37,035,000	129,790,000	1,407,000	983,000	3,979,000	10,975,000	35,332,000	164,450,000
1896	13,927,000	41,516,000	132,613,000	1,210,000	1,061,000	4,508,000	11,419,000	36,890,000	157,921,000
1897	13,353,000	43,646,000	132,243,000	1,141,000	1,038,000	4,287,000	11,209,000	37,434,000	168,737,000
1898	14,142,000	43,453,000	131,511,000	1,251,000	1,073,000	4,437,000	10,948,000	39,178,000	165,324,000
1899	14,046,000	47,384,000	134,871,000	1,144,000	1,059,000	2,709,000	11,166,000	38,886,000	173,650,000
1900	14,693,000	50,403,000	138,984,000	1,140,000	1,200,000	4,147,000	11,087,000	39,580,000	179,879,000
1901	15,374,000	52,456,000	138,053,000	1,238,000	1,235,000	4,179,000	10,850,000	39,957,000	182,129,000
1902	16,187,000	52,243,000	138,537,000	1,057,000	1,329,000	3,573,000	10,567,000	40,150,030	178,111,000
1903	16,936,000	54,359,000	140,469,000	1,194,000	1,243,000	3,779,000	10,709,000	42,520,000	179,452,000
1904	16,384,000	58,046,000	138,880,000	1,195,000	1,273,000	4,314,000	10,828,000	45,116,000	180,292,000
1905	17,483,000	61,037,000	136,689,000	1,047,000	1,188,000	4,582,000	10,511,000	45,165,000	185,807,000

EUROPEAN RUSSIA (TOTAL).

1889	17,972,000	62,238,000	201,441,000	(a)	4,468,000	6,311,000	21,599,000	50,044,000	171,424,000
1890	15,696,000	36,550,000	152,945,000	(a)	919,000	4,350,000	16,471,000	34,058,000	178,762,000
1891	15,438,000	36,228,000	151,271,000	(a)	818,000	4,451,000	15,485,000	33,235,000	177,426,000
1892	72,774,000	51,700,000	151,954,000	(a)	5,228,000	3,994,000	13,295,000	58,257,000	189,190,000
1893									
1894	24,061,000	38,749,000	143,434,000	1,476,000	1,187,000	3,396,000	12,789,000	40,300,000	164,656,000
1895	23,636,000	39,709,000	142,696,000	1,555,000	1,241,000	3,988,000	11,648,000	40,733,000	176,457,000
1896	23,692,000	44,136,000	145,288,000	1,335,000	1,254,000	4,520,000	12,115,000	43,372,000	170,538,000
1897	22,894,000	45,318,000	145,831,000	1,235,000	1,298,000	4,329,000	11,918,000	43,228,000	181,148,000
1898	23,317,000	45,993,000	145,199,000	1,399,000	1,334,000	4,517,000	11,649,000	45,255,000	177,674,000
1899	24,293,000	50,472,000	148,631,000	1,290,000	1,325,000	2,815,000	11,846,000	45,057,000	186,459,000
1900	25,661,000	53,528,000	153,254,000	1,279,000	1,565,000	4,234,000	11,753,000	46,071,000	192,954,000
1901	26,251,000	55,474,000	152,218,000	1,449,000	1,539,000	4,268,000	11,565,000	46,875,000	196,052,000
1902	27,786,000	55,663,000	153,174,000	1,219,000	1,627,000	3,668,000	11,285,000	47,450,000	192,281,000
1903	28,911,000	58,315,000	155,387,000	1,344,000	1,591,000	3,874,000	11,450,000	50,571,000	193,839,000
1904	29,010,000	62,046,000	153,590,000	1,335,000	1,662,000	4,443,000	11,474,000	53,716,000	194,995,000
1905	30,457,000	65,365,000	151,540,000	1,153,000	1,649,000	4,631,000	11,114,000	54,162,000	200,704,000

TOTAL RUSSIA.

1894	24,037,000	43,355,000	139,450,000	2,709,000	1,187,000	3,429,000	11,850,000	40,978,000	171,381,000
1895	23,644,000	46,120,000	144,345,000	3,302,000	1,241,000	4,035,000	11,794,000	41,742,000	186,321,000
1896	23,740,000	52,571,000	149,093,000	4,244,000	1,254,000	4,592,000	12,273,000	47,884,000	183,478,000
1897	22,946,000	55,308,000	148,661,000	4,166,000	1,299,000	4,392,000	12,077,000	44,683,000	194,382,000
1898	23,389,000	55,100,000	147,879,000	4,001,000	1,340,000	4,574,000	11,784,000	46,691,000	191,100,000
1899	24,342,000	59,278,000	151,352,000	3,912,000	1,330,000	2,879,000	11,988,000	46,359,000	199,866,000
1900	25,705,000	63,417,000	155,529,000	3,937,000	1,571,000	4,309,000	11,914,000	47,374,000	207,447,000
1901	26,312,000	64,991,000	154,613,000	4,120,000	1,546,000	4,328,000	11,736,000	48,130,000	209,267,000
1902	27,845,000	64,137,000	155,797,000	3,513,000	1,633,000	3,710,000	11,480,000	48,430,000	202,654,000
1903	28,956,000	68,035,000	158,376,000	3,953,000	1,601,000	3,933,000	11,672,000	51,576,000	205,415,000
1904	29,071,000	71,813,000	157,181,000	4,187,000	1,672,000	4,499,000	11,702,000	54,999,000	208,956,000
1905	30,520,000	75,566,000	154,533,000	3,640,000	1,634,000	4,679,000	11,301,000	55,503,000	214,869,000

[a] Included in winter rye.

SERVIA.

The earliest agricultural statistics for Servia during the period under review relate to the year 1889. In that year data showing the land devoted to the various crops were collected by the police authorities. The figures obtained are admittedly far below the actual facts. The inaccuracies resulting are attributed in the official report to the

popular fear that the returns might be used for purposes of taxation and to the insufficient supervision of the enumeration.

The statistics not only of area for 1889 but of the production as well are probably erroneous. No direct returns either of total production or of average yield seem to have been made. The total crops were calculated by assuming for each product an average yield identical for every province of the Kingdom. Thus the crop of wheat for each district in metric quintals was obtained by multiplying the area under winter wheat in hectares by $13\frac{1}{2}$, and the area in

TABLE 56.—*Grain production of* ***Servia,***[a] *1893–1906.*

Year.	Wheat.			Spelt.			Rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1893	783,500	8,726,000	11.1	45,500	441,000	9.7	147,800	1,317,000	8.9
1897	691,300	13,392,000	19.4	19,700	396,000	20.1	91,900	1,906,000	20.7
1898	695,900	9,713,000	14.0	[b] 2,000	[b] 20,600	[b] 10.0	111,700	1,583,000	14.2
1899	997,900	11,706,000	11.7	31,600	386,000	12.2	146,100	1,659,000	11.4
1900	766,100	8,135,000	10.6	11,500	89,000	7.7	87,900	678,000	7.7
1901	753,200	8,102,000	10.8	12,600	127,000	10.1	93,300	883,000	9.5
1902	804,600	11,408,000	14.2	16,000	169,000	10.6	98,400	1,084,000	11.0
1903	860,100	10,885,000	12.7	16,000	202,000	12.6	105,100	1,091,000	10.4
1904	905,400	11,676,000	12.9	15,200	109,000	7.1	111,500	1,030,000	9.2
1905	919,600	11,262,000	12.3	15,500	140,000	9.0	117,500	1,103,000	9.4
1906	921,400	13,211,000	14.3	16,400	181,000	11.1	120,200	1,560,000	13.0

Year.	Barley.			Corn.			Oats.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1893	227,600	2,518,000	11.1	1,314,100	18,126,000	13.8	261,800	3,264,000	12.5
1897	185,200	4,239,000	22.9	1,107,900	34,070,000	30.8	247,300	9,800,000	39.6
1898	237,200	4,002,000	16.9	1,235,700	28,212,000	22.8	235,100	6,433,000	27.4
1899	281,400	3,893,000	13.8	1,348,500	25,938,000	19.2	250,100	4,942,000	19.8
1900	184,900	2,259,000	12.2	1,144,900	18,472,000	16.1	210,600	2,680,000	12.7
1901	195,000	2,365,000	12.1	1,251,500	18,849,000	15.1	226,200	3,347,000	14.8
1902	217,900	3,495,000	16.0	1,296,400	18,396,000	14.2	248,100	4,044,000	16.3
1903	234,900	3,424,000	14.6	1,319,100	19,479,000	14.8	267,600	4,398,000	16.4
1904	244,700	3,163,000	12.9	1,336,600	9,498,000	7.1	259,100	3,167,000	12.2
1905	266,300	3,670,000	13.8	1,365,300	21,431,000	15.7	258,200	3,549,000	13.7
1906	270,200	4,848,000	17.6	1,354,500	27,786,000	20.5	261,500	4,642,000	17.7

Year.	Buckwheat.			Millet.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1893	6,500	33,300	5.1	3,400	32,100	9.4
1897	4,500	70,800	15.7	1,400	25,400	18.3
1900	5,000	36,500	7.4	1,000	10,700	10.6
1901	4,100	34,500	8.4	1,600	13,700	8.6
1902	4,600	25,200	5.5	1,500	12,000	7.8
1903	3,700	21,600	5.8	975	6,800	7.0
1904	4,200	16,900	4.0	633	4,300	6.9
1905	3,900	22,800	5.8	614	4,800	7.8
1906	5,100	30,700	6.0	1,300	14,500	11.1

[a] The official statistics of area and production for 1889 are excluded from these tables because incomparable with statistics for later years. The area of the various crops was returned as follows: Wheat, 461,500 acres; spelt, 18,500 acres; rye, 63,700 acres; barley, 114,100 acres; corn, 737,600 acres; oats, 130,900 acres; buckwheat, 3,400 acres; millet, 1,000 acres. The production was returned as follows: Wheat, 9,161,000 bushels; spelt, 597,000 bushels; rye, 1,071,000 bushels; barley, 2,504,000 bushels; corn, 18,802,000 bushels; oats, 4,381,000 bushels; buckwheat, 66,600 bushels; millet, 18,100 bushels.

[b] Data of area and production refer to only 4 provinces, which in 1899 represented 22 per cent of the total acreage and 27 per cent of the total crop; for the remaining 11 provinces the average yield was officially estimated, but not the area nor production. The average yield shown in the table is calculated from the average officially given for the Kingdom, not from the probably incomplete statistics of area and production.

spring wheat by 11. Similarly, for Indian corn an invariable average yield of 16 quintals per hectare was assumed; for winter rye, 11 quintals; for spring rye, 9 quintals; for winter barley, 12½ quintals; for spring barley, 11 quintals; for oats, 12 quintals; for spelt, 13 quintals; for buckwheat, 12½ quintals, and for millet, 11 quintals. The returns were published in the Statistique du Royaume de Serbie (in Servian, the heading of the tables being also given in French), Vol. III. The statistics for 1889, on account of their admitted inaccuracy and incomparability with statistics for later years, have been excluded from Table 56, but are given in a footnote to the table.

TABLE 57.—*Area and production of winter and spring grain in* ***Servia****, 1893–1904.*

Year.	Winter wheat.			Spring wheat.			Winter rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1893	705,300	8,068,000	11.4	78,200	658,000	8.4	102,700	1,008,000	9.8
1897	642,400	12,632,000	19.7	48,800	760,000	15.6	62,200	1,283,000	20.6
1900	729,500	7,915,000	10.8	36,600	220,000	6.0	62,800	544,000	8.7
1901	718,300	7,860,000	10.9	34,900	242,000	6.9	66,900	690,000	10.3
1902	767,200	11,082,000	14.4	37,400	326,000	8.7	70,900	852,000	12.0
1903	817,900	10,224,000	12.5	42,200	435,000	10.3	77,500	961,000	12.4
1904	866,000	11,446,000	13.2	39,400	230,000	5.8	82,400	850,000	10.3

Year.	Spring rye.			Winter barley.			Spring barley.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1893	45,100	309,000	6.8	116,700	1,406,000	12.0	110,900	1,112,000	10.0
1897	29,800	623,000	20.9	87,800	1,989,000	22.7	97,400	2,250,000	23.1
1900	25,200	134,000	5.3	81,100	1,124,000	13.9	103,800	1,135,000	10.9
1901	26,400	193,000	7.3	92,500	1,283,000	13.9	102,500	1,082,000	10.5
1902	27,500	232,000	8.4	106,900	2,004,000	18.7	111,000	1,491,000	13.4
1903	27,600	298,000	10.8	124,200	2,124,000	17.1	110,700	1,572,000	14.2
1904	29,100	180,000	6.2	141,600	2,197,000	15.5	103,100	966,000	9.4

Subsequent land censuses were taken in 1893, 1897, and 1900, the results being published in the same series, Volumes IX, XVI, and XVIII. The returns for these censuses were undoubtedly collected with much greater accuracy than for 1889. An inquiry as to the average yield per acre, as well as the area under each crop, appeared in all three censuses, and in 1900 the total crop was also recorded.

No estimates of area or crop were made for intercensus years until 1898. For that year and for 1899 the area and production of the leading crops, but not for millet and buckwheat, appeared in the Annuaire statistique du Royaume de Serbie.

For 1901 and 1902 the statistics published in Tables 56 and 57 were derived from Statistique du Royaume de Serbie, Volumes XXV and XXVII; for 1903 and 1904 from the Annuaire statistique, and for 1905[a] and 1906 from a statement directly furnished by the Servian Ministry of Agriculture.

[a] See also Austro-Hungarian Consular Report, 1905, XVIII, 2, pp. 5–12.

SPAIN.

Spain, like the other countries in southwestern Europe, devotes the principal part of its grain acreage to wheat. Wheat in 1905 occupied 54 per cent of the total grain acreage of the country, while barley occupied only 20 per cent, rye 11 per cent, and corn and oats each 7 per cent. During the twenty years 1885–1905 the wheat area showed a gain of 500,000 acres.

TABLE 58.—*Grain production of* ***Spain,*** *1890–1905.*

Year.	Wheat.			Rye.			Barley.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
Average crop [c]	*Acres.*	*Bushels.* [a] 93,009,000	*Bush.*[a]	*Acres.*	*Bushels.* [b] 20,978,000	*Bush.*[b]	*Acres.*	*Bushels.* [b] 49,405,000	*Bush.*[b]
1890	8,558,200	75,536,000	8.8	1,709,200	18,029,000	10.5	3,787,100	38,193,000	10.1
1892	8,366,800	87,307,000	10.4						
1893	7,954,200	93,527,000	11.8						
1894	8,252,100	110,041,000	13.3	1,518,100	17,434,000	11.5	2,518,200	57,839,000	23.0
1895	7,855,900	84,537,000	10.8	1,488,000	17,340,000	11.7	2,429,300	42,985,000	17.7
1896	7,825,200	79,171,000	10.1	1,674,200	15,381,000	9.2	2,360,600	32,530,000	13.8
1897	9,532,600	92,917,000	9.7	1,911,800	18,913,000	9.9	3,109,400	45,818,000	14.7
1898	9,543,100	125,101,000	13.1	1,775,800	21,152,000	11.9	3,689,900	72,804,000	19.7
1899	9,052,500	97,709,000	10.8	1,848,800	21,318,000	11.5	3,465,200	53,969,000	15.6
1900	9,559,700	100,703,000	10.5	1,799,000	21,424,000	11.9	3,432,400	56,716,000	16.5
1901	9,172,300	136,905,000	14.9	1,969,000	28,370,000	14.4	3,301,200	79,834,000	24.2
1902	[d]9,150,100	133,523,000	14.6	1,937,900	26,187,000	13.5	3,599,900	81,280,000	22.6
1903	8,983,500	128,979,000	14.4	1,930,800	22,511,000	11.7	3,539,800	64,359,000	18.2
1904	9,023,000	95,377,000	10.6	1,889,900	17,276,000	9.1	3,413,900	53,844,000	15.8
1905	8,879,200	92,504,000	10.4	1,854,200	26,502,000	14.3	3,336,200	45,917,000	13.8

Year.	Oats.			Corn.			Italian millet (panizo).		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
Average crop [c]	*Acres.*	*Bushels.* [b] 7,474,000	*Bush.*[b]	*Acres.*	*Bushels.* [b] 22,101,000	*Bush.*[b]	*Acres.*	*Bushels.* [b]	*Bush.*[b]
1890				660,300	16,050,000	24.3			
1894	730,100	12,393,000	17.0	826,000	19,085,000	23.1			
1895	653,600	8,863,000	13.6	793,800	15,714,000	19.8			
1896	683,100	7,844,000	11.5	993,300	18,252,000	18.4			
1897	874,800	23,179,000	26.5	1,095,500	19,733,000	18.0	3,200	93,200	29.4
1898	938,000	16,952,000	18.1	1,036,000	15,256,000	14.7	3,000	95,100	31.7
1899	932,000	15,100,000	16.2	1,160,200	25,629,000	22.1	2,900	86,200	29.4
1900	937,200	16,429,000	17.5	1,175,700	26,016,000	22.1	2,900	84,500	28.9
1901	944,200	22,788,000	24.1	1,156,100	25,759,000	22.3	3,300	107,000	32.8
1902	1,111,800	23,349,000	21.0	1,142,700	25,272,000	22.1	3,900	128,000	32.6
1903	1,115,900	22,942,000	20.6	921,000	18,759,000	20.4	2,800	84,700	30.3
1904	1,103,400	18,463,000	16.7	1,072,600	21,255,000	19.8	3,200	118,000	37.0
1905	1,119,400	22,250,000	19.9	1,148,900	31,880,000	27.7			

Year.	Kafir corn (zahina).			Spelt (escaña).			Maslin.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*
1897	2,200	12,100	5.6						
1898	2,100	18,200	8.7						
1899	2,200	14,200	6.4						
1900	3,400	24,700	7.3						
1901	3,400	37,800	11.1						
1902	3,700	47,000	12.7	56,500	1,177,000	20.8	130,900	2,056,000	15.7
1903	3,700	36,000	9.7	41,700	670,000	16.7			
1904	3,400	27,900	8.2	57,500	818,000	14.2	134,700	1,281,000	9.5

[a] In 1889-1890, bushels of capacity.
[b] Prior to 1897, bushels of capacity.
[c] As estimated about 1889.
[d] Corrected from statistics as printed in the Noticias estadísticas sobre la producción agrícola española, according to information furnished by the Junta consultiva agronómica.

The statistics of acreage and production are taken as far as possible, from official publications of the Junta Consultiva Agronómica, entitled "Noticias Estadísticas sobre la Producción Agrícola Española, 1902," and "Estadística de la Producción de Cereales y Leguminosas en el Año 1903." These statistics cover the years beginning with 1892 in the case of wheat, and with 1897 in the case of other grain. Data of production for 1890 and, except as regards wheat, for 1894–1896 are taken from the Bulletin du Ministère de l'Agriculture of France,[a] where in most cases they are expressly credited to the Junta Consultiva Agronómica. (See notes to Table 58.) An estimate still earlier than those referred to appeared in the French bulletin for 1890, p. 210, representing the average production of grain about 1899. From this estimate the statistics given in Table 58 opposite the term "average crop" were derived.

From data kindly supplied by the Junta Consultiva Agronómica in a letter to this Department it has been possible to insert statistics of acreage for 1890 and for 1894–1896, these statistics, except in the case of wheat for 1894–1896, not appearing in the published reports of the Junta for 1902 and 1903.

SWEDEN.

In Sweden a considerable expansion of the grain acreage, particularly in that devoted to wheat, rye, and oats, occurred during the twenty years 1885 to 1905. By far the leading crop is oats, followed in importance by rye, barley, maslin (mixed barley and oats), and wheat.

TABLE 59.—*Grain production of* ***Sweden,*** *1883–1906.*

Year.	Wheat.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*[b]	*Bush.*[b]	*Acres.*	*Bushels.*[b]	*Bush.*[b]	*Acres.*	*Bushels.*[b]	*Bush.*[b]
1883	.....	3,041,000	.....	.....	2,709,000	.....	.....	332,000	.....
1884	.....	3,744,000	.....	.....	3,348,000	.....	.....	396,000	.....
1885	.....	3,976,000	.....	.....	3,623,000	.....	.....	353,000	.....
1886	.....	3,867,000	.....	.....	3,560,000	.....	.....	307,000	.....
1887	.....	4,371,000	.....	.....	4,080,000	.....	.....	291,000	.....
1888	.....	3,854,000	.....	.....	3,593,000	.....	.....	261,000	.....
1889	.....	3,810,000	.....	.....	3,580,000	.....	.....	230,000	.....
1890	174,400	4,049,000	23.2	162,600	3,806,000	23.4	11,800	243,000	20.6
1891	175,400	4,341,000	24.7	163,500	4,097,000	25.1	11,900	244,000	20.5
1892	176,300	4,342,000	24.6	163,700	4,067,000	24.8	12,600	275,000	21.8
1893	174,700	3,893,000	22.3	162,100	3,621,000	22.3	12,600	272,000	21.5
1894	175,100	4,362,000	24.9	163,300	4,105,000	25.1	11,800	257,000	21.8
1895	175,800	3,705,000	21.1	163,600	3,448,000	21.1	12,200	257,000	21.0
1896	176,200	4,704,000	26.7	163,800	4,453,000	27.2	12,400	251,000	20.1
1897	178,100	4,677,000	26.3	165,900	4,433,000	26.7	12,200	244,000	20.0
1898	182,800	4,615,000	25.2	170,200	4,340,000	25.5	12,600	275,000	21.9
1899	186,400	4,554,000	24.4	172,400	4,265,000	24.7	14,000	289,000	20.7
1900	192,500	5,380,000	28.0	178,400	5,054,000	28.3	14,100	326,000	23.2
1901	195,100	4,193,000	21.5	178,000	3,796,000	21.3	17,100	397,000	23.2
1902	202,400	4,756,000	23.5	185,300	4,429,000	23.9	17,100	327,000	19.2
1903	200,600	5,538,000	27.6	184,700	5,175,000	28.0	15,900	363,000	22.9
1904	199,900	5,135,000	25.7	185,100	4,813,000	26.0	14,800	322,000	21.8
1905	205,700	5,529,000	26.9	190,200	5,171,000	27.2	15,500	358,000	23.1
1906[c]	.....	6,228,000	.....	.....	5,864,000	.....	.....	364,000	.....

[a] 1891, p. 332; 1896, p. 1053; 1897, p. 1188; 1899 p. 806. [b] Winchester bushels. [c] Preliminary.

TABLE 59.—*Grain production of* ***Sweden****, 1883–1906*—Continued.

Year.	Rye.								
	Total.			Winter.			Spring.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.* [a]	*Bush.* [a]	*Acres.*	*Bushels.* [a]	*Bush.* [a]	*Acres.*	*Bushels.* [a]	*Bush.* [a]
1883	.....	17,620,000	.....	.....	17,373,000	.....	.....	247,000	.....
1884	.....	20,110,000	.....	.....	19,861,000	.....	.....	249,000	.....
1885	.....	20,996,000	.....	.....	20,765,000	.....	.....	231,000	.....
1886	.....	19,753,000	.....	.....	19,527,000	.....	.....	226,000	.....
1887	.....	21,531,000	.....	.....	21,324,000	.....	.....	207,000	.....
1888	.....	19,983,000	.....	.....	19,762,000	.....	.....	221,000	.....
1889	.....	20,409,000	.....	.....	20,206,000	.....	.....	203,000	.....
1890	964,500	21,576,000	22.4	951,000	21,356,000	22.5	13,500	220,000	16.3
1891	978,200	21,486,000	22.0	964,300	21,246,000	22.0	13,900	240,000	17.3
1892	987,900	23,000,000	23.3	973,300	22,745,000	23.4	14,600	255,000	17.4
1893	994,600	23,353,000	23.5	979,700	23,100,000	23.6	14,900	253,000	16.9
1894	994,100	19,313,000	19.4	978,600	19,045,000	19.5	15,500	268,000	17.2
1895	997,100	19,182,000	19.2	980,200	18,894,000	19.3	16,900	288,000	17.0
1896	1,007,500	23,141,000	23.0	989,600	22,845,000	23.1	17,900	296,000	16.5
1897	1,012,300	22,988,000	22.7	994,300	22,697,000	22.8	18,000	291,000	16.1
1898	1,014,200	20,668,000	20.4	995,800	20,362,000	20.4	18,400	306,000	16.6
1899	1,012,400	20,299,000	20.0	992,600	19,974,000	20.1	19,800	325,000	16.4
1900	1,015,800	23,708,000	23.3	995,300	23,345,000	23.5	20,500	363,000	17.7
1901	1,013,800	21,771,000	21.5	992,900	21,399,000	21.6	20,900	372,000	17.8
1902	1,017,200	22,294,000	21.9	994,800	21,929,000	22.0	22,400	365,000	16.3
1903	1,013,800	23,359,000	23.0	991,500	22,955,000	23.2	22,300	404,000	18.1
1904	1,016,500	20,707,000	20.4	994,100	20,320,000	20.4	22,400	387,000	17.3
1905	1,014,100	24,393,000	24.1	991,200	23,986,000	24.2	22,900	407,000	17.8
1906 [b]	.....	26,247,000	.....	.....	25,763,000	.....	.....	484,000	.....

Year.	Barley.			Oats.			Maslin.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.* [a]	*Bush.* [a]	*Acres.*	*Bushels.* [a]	*Bush.* [a]	*Acres.*	*Bushels.* [a]	*Bush.* [a]
1883	.....	14,322,000	.....	.....	49,242,000	.....	.....	5,642,000	.....
1884	.....	15,014,000	.....	.....	53,352,000	.....	.....	6,696,000	.....
1885	.....	12,550,000	.....	.....	52,004,000	.....	.....	6,711,000	.....
1886	.....	13,831,000	.....	.....	53,754,000	.....	.....	7,096,000	.....
1887	.....	14,561,000	.....	.....	55,402,000	.....	.....	7,309,000	.....
1888	.....	13,271,000	.....	.....	60,443,000	.....	.....	7,283,000	.....
1889	.....	12,839,000	.....	.....	44,579,000	.....	.....	5,672,000	.....
1890	546,200	14,737,000	27.0	1,979,200	63,426,000	32.0	260,300	8,196,000	31.5
1891	546,600	13,086,000	23.9	1,992,100	52,620,000	26.4	267,600	7,573,000	20.8
1892	550,100	13,859,000	25.2	2,010,800	64,509,000	32.1	277,100	9,234,000	33.3
1893	540,300	12,920,000	23.9	2,021,200	56,312,000	27.9	287,700	7,740,000	26.9
1894	540,700	14,284,000	26.4	2,022,000	63,396,000	31.4	287,800	9,033,000	31.4
1895	542,600	13,930,000	25.7	2,044,600	63,348,000	31.0	296,200	8,829,000	29.8
1896	538,700	13,590,000	25.2	2,023,000	52,960,000	26.2	300,900	8,363,000	27.8
1897	542,100	13,679,000	25.2	2,033,100	54,166,000	26.6	304,400	8,855,000	29.1
1898	545,700	14,840,000	27.2	2,034,700	65,150,000	32.0	309,900	10,247,000	33.1
1899	545,400	12,465,000	22.9	2,027,500	50,530,000	24.9	311,400	8,350,000	26.8
1900	537,600	13,821,000	25.7	2,038,200	62,627,000	30.7	320,700	10,505,000	32.8
1901	537,800	12,753,000	23.7	2,040,100	55,352,000	27.1	329,300	8,953,000	27.2
1902	531,400	12,283,000	23.1	2,036,100	57,323,000	28.2	334,100	10,185,000	30.5
1903	528,900	13,570,000	25.7	2,036,300	59,641,000	29.3	335,000	10,589,000	31.6
1904	526,300	13,452,000	25.6	2,045,900	51,578,000	25.2	344,100	10,314,000	30.0
1905	514,000	12,858,000	25.0	2,030,800	58,488,000	28.8	348,900	10,581,000	30.3
1906 [b]	.....	14,952,000	.....	.....	68,631,000	.....	.....	12,713,000	.....

Year.	Buckwheat.			Year.	Buckwheat.		
	Area.	Production.	Average yield.		Area.	Production.	Average yield.
	Acres.	*Bushels.* [a]	*Bushels.* [a]		*Acres.*	*Bushels.* [a]	*Bushels.* [a]
1883	.....	34,500	.....	1895	.....	6,900	.....
1884	.....	12,700	.....	1896	.....	6,000	.....
1885	.....	10,200	.....	1897	.....	6,400	.....
1886	.....	7,200	.....	1898	.....	6,200	.....
1887	.....	8,900	.....	1899	.....	5,500	.....
1888	.....	6,200	.....	1900	.....	5,900	.....
1889	.....	4,900	.....	1901	.....	3,900	.....
1890	.....	6,800	.....	1902	.....	4,600	.....
1891	.....	8,400	.....	1903	423	4,400	10.4
1892	.....	9,400	.....	1904	408	4,100	10.0
1893	.....	8,400	.....	1905	.....	3,200	.....
1894	.....	8,300	.....	1906 [b]	.....	3,100	.....

[a] Winchester bushels.

[b] Preliminary.

The statistics in Table 59 represent as far as possible the official estimates of the Central Statistical Bureau, published annually under the title "Bidrag till Sveriges Officiella Statistik: Jordbruk och Boskapsskötsel." For 1906 the data are taken from a preliminary report published by the same office.

It is to be noted that in the Swedish agricultural statistics the relation between harvest and sowings is of greater importance than the relation between harvest and area. While sowings and crops are both available from the beginning of the period, the area of the separate crops was not estimated until 1890 and even up to the present time is not taken separately for all crops. In Table 60 is shown the total sowings for 1883–1905. In order to ascertain the probable acreage in 1885 for insertion in the summary Tables 1, 2, and 4, it was assumed that the average seeding per acre required in 1885 was the same as that used in 1890–1894.

TABLE 60.—*Sowings in* ***Sweden****, 1883–1905.*

Year.	Wheat.		Rye.		Barley.	Oats.	Maslin.	Buckwheat.
	Winter.	Spring.	Winter.	Spring.				
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1883	438,637	56,303	2,856,985	51,601	2,241,116	8,597,561	875,555	2,503
1884	440,652	64,549	2,848,756	48,633	2,191,122	8,790,207	939,656	2,330
1885	450,002	61,768	2,816,173	46,947	2,050,040	8,916,905	975,383	1,864
1886	453,779	54,765	2,814,045	47,915	2,012,466	8,961,150	976,458	1,444
1887	460,255	47,920	2,793,997	44,209	2,042,276	9,231,328	985,896	1,836
1888	468,239	47,111	2,850,824	48,462	2,041,893	9,451,919	998,306	1,180
1889	480,763	45,014	2,844,207	47,798	2,002,542	9,462,799	1,001,700	863
1890	485,142	43,176	2,840,961	49,714	1,996,697	9,406,388	1,047,117	1,189
1891	485,394	43,417	2,867,050	50,139	1,985,570	9,409,220	1,069,855	1,351
1892	488,856	46,079	2,899,375	53,423	2,002,485	9,513,682	1,108,752	1,558
1893	483,868	46,150	2,916,540	54,092	1,982,077	9,541,749	1,133,028	1,450
1894	485,755	42,818	2,899,829	55,727	1,957,233	9,513,931	1,145,855	1,422
1895	486,351	44,572	2,929,287	60,795	1,961,032	9,602,666	1,176,737	1,209
1896	488,677	44,821	2,949,599	64,819	1,935,720	9,449,166	1,188,420	1,090
1897	496,126	43,545	2,962,479	64,135	1,938,030	9,450,511	1,197,413	1,198
1898	509,912	45,188	2,978,351	65,752	1,950,516	9,452,529	1,218,838	1,169
1899	517,162	49,600	2,970,243	70,818	1,938,512	9,369,961	1,217,282	1,124
1900	531,930	49,524	2,962,545	72,753	1,900,456	9,366,927	1,247,532	1,138
1901	533,865	60,837	2,968,890	74,339	1,901,063	9,373,735	1,279,726	848
1902	551,623	60,230	2,961,160	78,800	1,877,385	9,347,432	1,298,106	897
1903	548,317	55,766	2,948,336	78,811	1,869,329	9,354,617	1,301,925	846
1904	548,570	52,480	2,951,668	79,416	1,855,552	9,379,844	1,334,502	780
1905	566,206	54,949	2,945,300	81,346	1,828,171	9,388,025	1,364,187	681

SWITZERLAND.

The only agricultural statistics of a general character published by the Federal Government of Switzerland show the total area of the country, the productive land, and of the latter the extent in forests and in vineyards separately. These data were originally obtained in 1877 by the Federal Bureau of Public Works, but in each issue of the Statistical Yearbook (Statistisches Jahrbuch der Schweiz), they are brought down as nearly as possible to date by information received from cantonal authorities. From these tables it is impossible directly to ascertain the area of arable land, for with it are included the gardens, meadows, and permanent pasture land.

Only three of the Cantons publish statistics of acreage and production—Bern, Zürich, and Vaud—which annually appear in the Statistical Yearbook of Switzerland and from which Tables 61–64 were compiled.

It is of course very desirable to ascertain at least in an approximate manner the total production of the Republic, together with the changes that are taking place in the cultivation of the various crops. In Das Getreide im Weltverkehr, published by the Austrian Ministry of Agriculture in 1900, an attempt was made to calculate from the available data the area and production of Switzerland for each year from 1888 to 1896. In doing so the general method adopted by G. Mühlemann, a prominent statistician of Switzerland, was followed. From the calculations of Mühlemann it appeared that the arable land of Switzerland represented about 30.857 per cent of the total productive land, exclusive of forests and vineyards. By applying the same percentage to the area of productive land, exclusive of forests and vineyards, as shown in the Statistical Yearbook for 1898, the arable land was estimated at 646,188 hectares (1,596,756 acres). From this figure the total grain area of Switzerland was next calculated by assuming that the same relation between these two factors existed in the case of all Switzerland as appeared in the case of Bern in the Cantonal statistics for 1888, 1891, and 1895. Separate statistics of the area devoted to grain were available for Thurgau in 1890 and Schaffhausen in 1884, as well as for Bern, Zürich, and Vaud. The area for each grain and for all grain in the five Cantons covering, it is true, uneven dates was next ascertained. The total grain area in the five Cantons was then subtracted from the estimated grain area of Switzerland, and the balance apportioned among the various grains in the same ratio as was shown in the statistics of Bern for 1888, 1891, and 1895, the proportions for 1888 being applied in 1888–1890, those for 1891 being applied in 1891–1893, and those for 1895 being applied in 1894–1896. The results obtained by this computation for each of the grains in the other Cantons were added to the returns for the five Cantons, and the area of each grain in the Republic thus obtained.

The calculation of the area devoted to the various grains was thus obtained by three distinct processes. First, from the area of productive land, exclusive of forests and vineyards, the area of arable land alone was ascertained for all Switzerland by applying the percentage calculated by Mühlemann. That percentage, which took some account of the nature of the soil and the local conditions in the various Cantons, is considerably lower than that which applies to Bern. Second, the grain area was calculated from the area of arable land on the assumption that the conditions in Bern are typical of those in Switzerland as a whole. Third, retaining the statistics

of the area devoted to each grain in the Cantons for which such statistics appear in the Statistical Yearbook, even when referring to widely different years, the area in the remaining Cantons was apportioned among the various grains in the same ratio as appeared in the statistics of Bern.

These calculations, while extremely complicated and in some points not entirely consistent throughout, led to as satisfactory conclusions in the main as can be reached in the absence of comprehensive official returns. The application of percentages derived from the statistics of Bern to wider areas is open to much less criticism than would otherwise be the case on account of the small size of the country, the central location of Bern, its altitude, and the representative character of its soil.

From the statistics of area the production was calculated by assuming that the average yield in Bern represented the average for all Switzerland, no account being taken of the production returned by the cantonal authorities for Zürich and Vaud. This method seems to be somewhat inconsistent with the procedure adopted in calculating the acreage. It would apparently have been better to retain the production statistics for the three Cantons for which returns are available and to apply the average yield of Bern only to the remaining area.

To bring the statistics of Switzerland more nearly down to date, the same general method has been applied to calculate the area and production of the years 1897 to 1905. For this calculation the area of cultivated land, exclusive of forests and vineyards, as returned in the Statistical Yearbook for 1903, has been used, the area of arable land being ascertained by using the same percentage as was applied for the earlier years. From this figure the area devoted to each grain was ascertained by calculations [a] similar to those employed in 1888–1896, except that the statistics for only three Cantons—Bern, Zürich, and Vaud—were directly taken, the remainder being calculated as in the earlier years. No account was taken directly of the acreage in Schaffhausen and Thurgau, because the data for the single year which was available in each case seemed too old to be safely used.

The production estimates for 1897 to 1905 differ from those for the earlier years in taking account as far as possible of the statistics returned for the three Cantons, the balance being computed by apply-

[a] Arable land = 5,447,852 acres × 30.857 per cent. From the statistics of Bern it appears that in 1895, 34.26 per cent of the arable land in the Canton was devoted to grain and in 1904, 32.36 per cent. By applying these percentages in turn to the calculated arable land in Switzerland, the total grain area for 1897–1903 and for 1904–5, respectively, was obtained. After deducting the acreage returned by Bern, Vaud, and Zürich, using for each year the latest returns, the remainder was apportioned among the different grains in the proportions shown by the statistics of Bern for 1895 (wheat 24.7, spelt 30.1, rye 16.5, barley 5.1, oats 23.6 per cent), or for 1904 (wheat 24.8, spelt 28.1, rye 18.5, barley 3.9, oats 24.7 per cent).

ing the average yield for Bern. Since 1902 no official statistics are available for Zürich, and for 1905 none for Vaud, so that the production for those Cantons had to be estimated by applying to the latest returns of acreage the average yield for Bern.

The statistics of acreage prior to 1897 given in Table 61 are taken directly from Das Getreide im Weltverkehr, but, in order to avoid a few errors that appear in the corresponding statistics of production, the latter has been recalculated from the estimated acreage by using the average yield per acre in Bern. (See Table 64.) The data for later years have been calculated for the first time following the method outlined in the preceding paragraphs, which, in its essential features is similar to the method employed in Das Getreide im Weltverkehr.

In the case of maslin, the statistics prior to 1896 cover only one Canton, Vaud, and subsequently two Cantons, Vaud and Zürich.

TABLE 61.—*Estimated area and production of grain in* ***Switzerland****, 1888–1905.*

Year.	Wheat.			Spelt.			Rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1888	183,000	3,600,000	19.7	153,000	7,100,000	46.6	77,000	2,000,000	25.7
1889		3,600,000	19.5		6,700,000	43.8		1,700,000	22.2
1890		4,500,000	24.6		8,100,000	53.2		2,100,000	27.8
1891	174,000	4,200,000	24.2	145,000	7,100,000	49.0	79,000	2,000,000	25.6
1892		4,360,000	25.0		7,600,000	52.7		2,300,000	28.7
1893		3,300,000	18.8		6,200,000	43.2		1,800,000	22.5
1894	165,000	3,900,000	23.7	132,000	6,500,000	49.4	79,000	2,000,000	24.8
1895		3,400,000	20.9		5,800,000	43.9		1,700,000	21.5
1896		2,900,000	17.9		5,100,000	38.7		1,600,000	19.7
1897	160,000	3,400,000	21.5	147,000	6,800,000	46.6	88,000	2,000,000	23.0
1898	164,000	4,000,000	24.5	146,000	7,000,000	48.2	88,000	2,100,000	24.2
1899	164,000	4,100,000	24.7	146,000	7,300,000	50.1	88,000	2,300,000	25.9
1900		4,100,000	25.1		7,200,000	49.4		2,200,000	25.4
1901		3,600,000	22.0		6,300,000	43.4		2,100,000	24.0
1902		4,000,000	24.3		7,100,000	48.5		2,200,000	24.8
1903		4,200,000	25.9		6,800,000	46.7		2,300,000	26.6
1904	157,000	3,900,000	24.7	128,000	6,600,000	51.7	92,000	2,500,000	26.9
1905		3,500,000	22.3		5,900,000	46.4		2,300,000	24.9

Year.	Barley.			Oats.			Maslin.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1888	30,000	810,000	27.0	136,000	6,400,000	46.7	9,900	220,000	22.7
1889		760,000	25.4		5,900,000	43.4	10,400	240,000	22.6
1890		850,000	28.1		6,500,000	47.5	11,000	250,000	22.9
1891	30,000	830,000	27.5	139,000	6,700,000	48.6	10,500	260,000	24.9
1892		830,000	27.5		6,300,000	45.6	10,300	250,000	24.6
1893		660,000	22.0		4,200,000	30.3	10,000	230,000	23.3
1894	27,000	690,000	25.6	135,000	5,800,000	43.2	10,200	280,000	27.0
1895		670,000	25.0		5,900,000	43.5	10,200	260,000	25.3
1896		570,000	21.3		5,200,000	38.8	11,100	250,000	23.0
1897	27,000	660,000	24.2	144,000	6,300,000	44.0	9,800	230,000	23.4
1898	27,000	720,000	26.6	141,000	6,700,000	48.0	10,400	260,000	25.2
1899	27,000	700,000	25.8	140,000	6,700,000	47.9	10,400	260,000	24.6
1900		720,000	26.7		6,500,000	46.8		260,000	25.0
1901		660,000	24.4		5,800,000	41.3		240,000	23.4
1902		710,000	26.2		6,600,000	47.1		270,000	25.6
1903		750,000	28.0		6,900,000	49.4		280,000	26.7
1904	20,000	560,000	27.7	137,000	6,600,000	48.4		250,000	24.3
1905		520,000	25.9		6,200,000	45.4		250,000	24.3

TABLE 62.—*Production of grain in* ***Vaud, Switzerland,*** *1884–1904.*

Year.	Wheat.			Rye.			Maslin.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1884	41,800	1,152,000	27.5	3,100	48,900	15.6	11,100	257,000	23.1
1885	41,100	1,078,000	26.2	3,100	48,600	15.6	11,000	253,000	22.9
1886	40,300	1,057,000	26.2	3,500	45,100	12.9	10,400	235,000	22.6
1887	39,400	1,020,000	25.9	2,500	51,900	21.1	10,500	237,000	22.6
1888	41,900	923,000	22.0	3,800	49,800	13.3	9,900	225,000	22.7
1889	41,700	976,000	23.4	3,600	47,000	13.2	10,400	235,000	22.6
1890	41,500	1,059,000	25.5	2,500	53,100	21.4	11,000	252,000	22.9
1891	40,500	1,124,000	27.8	2,200	58,900	26.9	10,500	262,000	24.9
1892	39,600	1,071,000	27.1	2,300	58,500	25.8	10,300	253,000	24.6
1893	39,200	932,000	23.8	3,200	49,900	15.6	10,000	232,000	23.3
1894	37,300	1,066,000	28.6	2,400	62,700	25.8	10,300	277,000	27.0
1895	36,700	941,000	25.7	2,400	58,000	24.2	10,200	258,000	25.3
1896	36,100	909,000	25.2	2,400	54,000	22.8	10,100	241,000	23.8
1897	30,100	752,000	25.0	2,200	50,900	23.6	8,900	212,000	24.0
1898	35,000	955,000	27.3	2,200	56,000	24.9	9,500	245,000	25.8
1899		989,000	28.2		56,200	25.0		237,000	25.0
1900		1,016,000	28.9		55,000	24.5		243,000	25.6
1901	35,100	862,000	24.5	2,200	51,400	22.9	9,500	227,000	23.9
1902		955,000	27.2		51,400	22.9		248,000	26.2
1903		1,044,000	29.7		56,900	25.3		259,000	27.3
1904		931,000	26.5		50,800	22.6		235,000	24.8

Year.	Barley.			Oats.			Corn.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1884	2,400	68,300	27.9	22,000	1,022,000	46.4	.....	.....	.....
1885	2,200	57,700	25.8	21,900	1,027,000	46.9	.....	.....	.....
1886	2,100	52,500	25.0	22,800	1,037,000	45.6	.....	.....	.....
1887	2,000	47,700	24.5	22,000	875,000	39.8	.....	.....	.....
1888	2,100	54,700	25.8	22,500	1,080,000	48.0	.....	2,300	.....
1889	2,100	52,500	25.0	22,000	993,000	45.1	.....	2,200	.....
1890	2,000	48,000	24.5	23,900	1,049,000	43.9	.....	2,100	.....
1891	2,000	52,100	26.7	22,600	1,118,000	49.5	.....	4,100	.....
1892	2,100	54,500	26.1	22,200	1,061,000	47.7	.....	2,300	.....
1893	1,800	50,700	27.5	21,600	836,000	38.8	.....	2,100	.....
1894	1,700	49,500	29.8	21,600	1,051,000	48.8	.....	1,700	.....
1895	1,600	49,100	30.5	22,600	1,032,000	45.7	.....	1,600	.....
1896	1,600	44,800	28.4	23,100	1,041,000	45.1	.....	1,900	.....
1897	1,900	54,700	28.5	27,400	1,251,000	45.6	.....	1,700	.....
1898	1,700	51,800	30.7	24,400	1,197,000	49.0	.....	1,600	.....
1899		47,700	30.6		1,177,000	49.5	.....	1,500	.....
1900		46,400	29.8		1,097,000	46.2	.....	1,500	.....
1901	1,600	44,600	28.6	23,800	1,023,000	43.1	.....	1,200	.....
1902		43,400	27.8		1,158,000	48.8	.....	1,100	.....
1903		45,700	29.3		1,203,000	50.7	.....	1,100	.....
1904		40,100	25.7		1,099,000	46.3	.....	1,000	.....

TABLE 63.—*Production of grain in* ***Zürich, Switzerland,*** *1888–1902.*

Year.	Wheat.			Spelt.			Rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1888		270,000	17.7		196,000	29.7		177,000	19.5
1889	15,300	289,000	18.9	6,600	202,000	30.6	9,100	187,000	20.6
1890		341,000	22.3		241,000	36.6		215,000	23.6
1891		261,000	19.3		161,000	33.7		149,000	17.3
1892		316,000	23.3		176,000	36.8		203,000	23.6
1893	13,500	280,000	20.7	4,800	159,000	33.3	8,600	184,000	21.3
1894		276,000	20.3		155,000	32.4		170,000	19.8
1895		253,000	18.7		147,000	30.7		142,000	16.5
1896		204,000	15.6		121,000	26.4		126,000	15.2
1897		258,000	19.7		144,000	31.5		150,000	18.1
1898		271,000	20.7		152,000	33.1		158,000	19.0
1899	13,100	279,000	21.3	4,600	161,000	35.2	8,300	159,000	19.2
1900		278,000	21.2		163,000	35.5		159,000	19.2
1901		239,000	18.2		144,000	31.3		179,000	21.7
1902		287,000	21.9		171,000	37.3		159,000	19.2

TABLE 63.—*Production of grain in* ***Zürich, Switzerland,*** *1888–1902*—Continued.

Year.	Barley.			Oats.			Maslin		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1888		32,500	19.4		197,000	35.1			
1889	1,700	34,300	20.4	5,600	197,000	35.1			
1890		38,300	22.8		195,000	34.8			
1891		29,800	21.0		179,000	34.0			
1892		29,700	21.0		181,000	34.3			
1893	1,400	29,700	21.0	5,300	160,000	30.3			
1894		28,500	20.1		169,000	32.0			
1895		27,400	19.4		169,000	32.0			
1896		23,900	17.0		146,000	27.8		14,000	15.2
1897		26,900	19.2		173,000	32.9		16,500	17.9
1898		28,300	20.2		180,000	34.1		18,200	19.8
1899	1,400	29,700	21.2	5,300	180,000	34.2	920	18,400	20.0
1900		29,700	21.2		180,000	34.2		17,500	19.0
1901		28,500	20.3		170,000	32.2		16,600	18.0
1902		30,700	21.9		194,000	36.8		18,200	19.7

TABLE 64.—*Production of grain in* ***Bern, Switzerland,*** *1887–1903.*

Year.	Wheat.			Spelt.			Rye.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1887	30,300	712,000	23.5	38,600	2,024,000	52.4	17,000	405,000	23.8
1888	30,400	598,000	19.7	38,600	1,799,000	46.6	17,000	438,000	25.7
1889	30,400	593,000	19.5	38,700	1,695,000	43.8	17,100	379,000	22.2
1890	29,000	713,000	24.6	37,000	1,966,000	53.2	18,300	509,000	27.8
1891		704,000	24.2		1,826,000	49.0		471,000	25.6
1892	29,000	727,000	25.0	37,200	1,962,000	52.7	18,400	528,000	28.7
1893		545,000	18.8		1,610,000	43.2		415,000	22.5
1894		689,000	23.7		1,841,000	49.4		456,000	24.8
1895		585,000	20.9		1,506,000	43.9		404,000	21.5
1896		503,000	17.9		1,328,000	38.7		370,000	19.7
1897		584,000	20.8		1,616,000	47.1		441,000	23.5
1898		677,000	24.1		1,669,000	48.7		464,000	24.7
1899	28,100	677,000	24.1	34,300	1,733,000	50.6	18,800	500,000	26.6
1900		684,000	24.4		1,707,000	49.8		490,000	26.1
1901		608,000	21.7		1,501,000	43.8		457,000	24.3
1902		664,000	23.7		1,675,000	48.9		478,000	25.4
1903		696,000	24.8		1,602,000	46.7		501,000	26.6

Year.	Barley.			Oats.		
	Area.	Production.	Average yield.	Area.	Production.	Average yield.
	Acres.	*Bushels.*	*Bushels.*	*Acres.*	*Bushels.*	*Bushels.*
1887	6,400	151,000	23.8	26,300	1,046,000	39.7
1888	6,300	170,000	27.0	26,400	1,232,000	46.7
1889	6,300	160,000	25.4	26,400	1,147,000	43.4
1890	6,400	181,000	28.1	27,200	1,292,000	47.5
1891		177,000	27.5		1,330,000	48.6
1892	6,500	177,000	27.5	27,300	1,248,000	45.6
1893		142,000	22.0		830,000	30.3
1894		165,000	25.6		1,180,000	43.2
1895		146,000	25.0		1,170,000	43.5
1896		124,000	21.3		1,043,000	38.8
1897		141,000	24.1		1,186,000	44.1
1898		155,000	26.7		1,303,000	48.4
1899	5,800	150,000	25.8	26,900	1,297,000	48.2
1900		156,000	26.8		1,277,000	47.5
1901		142,000	24.3		1,112,000	41.3
1902		154,000	26.4		1,271,000	47.2
1903		163,000	27.9		1,321,000	49.1

TURKEY.

Turkey is preeminently an agricultural country, but in the absence of even approximate estimates of production or commerce, it is impossible to measure their importance. From various consular and other

sources,[a] unofficial estimates of production have been gathered covering the years 1900 to 1905. These estimates have been converted into bushels and are reprinted in Table 65; but of the accuracy of these statistics it is impossible to judge. In the absence of other data an average of these estimates has been inserted in the summary tables (Nos. 13, 16, 18, 20, and 22). The data of area given in Table 4 have been roughly calculated by dividing among the various grains the total grain area as estimated in 1903 (9,000,000 acres); this was done on the assumption that the average yield of the various grains in Turkey was proportional to their average yield in Bulgaria in 1903.

TABLE 65.—*Grain production of* ***Turkey.***[a]

Year.	Wheat.	Barley.	Rye.	Corn	Oats.
Total Turkey:	*Bushels.*[b]	*Bushels.*[b]	*Bushels.*[b]	*Bushels.*[b]	*Bushels.*[b]
1900	78,600,000				
1901	92,300,000				
1902	71,000,000				
1903	83,400,000	27,300,000	10,800,000	32,400,000	16,200,000
1904	58,800,000	41,400,000	15,700,000	41,400,000	31,000,000
1905	66,100,000	34,500,000	21,700,000	49,200,000	58,600,000
European Turkey:					
1870	22,700,000	12,500,000	13,300,000	8,500,000	2,000,000
1900	33,200,000				
1901	35,500,000				
1902	19,900,000				
1903	37,800,000				
1904	25,700,000	18,403,000	9,800,000	19,700,000	13,800,000
1905	29,400,000	20,700,000	13,800,000	23,600,000	17,200,000
Asiatic Turkey:					
1900	45,400,000				
1901	56,800,000				
1902	51,100,000				
1903	45,600,000				
1904	33,100,000	23,000,000	5,900,000	21,700,000	17,200,000
1905	36,700,000	13,800,000	7,900,000	25,600,000	41,400,000

[a] In 1903 the total grain area was estimated at 9,000,000 acres.
[b] Prior to 1904 bushels of capacity.

UNITED KINGDOM.

In Great Britain and in Ireland a considerable contraction of the area in wheat and barley has taken place during the last twenty years; the rye acreage has remained about constant; while in Great Britain, but not in Ireland, a gradual expansion of the area under oats has taken place.

In each of these countries a remarkably high average yield is found. Some increase in the yield may be observed during the period covered by Table 66. The statistics for Great Britian shown in that table are derived from the Agricultural Returns, published annually by the British Board of Agriculture and Fisheries. The returns for Ireland are taken from the Annual Report of the Irish Department of Agriculture and Technical Instruction, entitled Agricultural Statistics. In the former report no data of production appear prior to 1884 and in subsequent years are given in measures of capacity (Imperial bushels or Imperial quarters). For Ireland on the contrary the crop statistics are taken in hundredweight and the converted

[a] Deutsches Handels-Archiv, 1904, II, p. 895; Nachrichten für Handel und Industrie, 1905, No. 17, p. 3; 1906, No. 9, p. 4.

figures given in Table 66 are consequently in bushels of weight. Owing to the fact that in the United Kingdom the average weight of oats per bushel is considerably higher than the average weight in the United States, the average yields shown for Ireland appear much larger than those for Great Britain, since the former relate to bushels of 32 pounds, while the latter are given in Winchester bushels, which average more than that weight. For the Isle of Man and the Channel Islands no statistics of production are published.

For Great Britain the acreage, but not the production, of rye is shown in the official returns. In order to insert in summary Table 15 the probable production for the United Kingdom, the average crop in Great Britain was calculated from the acreage returns for Great Britain and the statistics of average yield in Ireland.

TABLE 66.—*Grain production of the* ***United Kingdom,*** *1883–1906.*

WHEAT.

Year.	Great Britain.			Ireland.			United Kingdom.[a]			Isle of Man and Channel Islands.
	Area.	Production.	Average yield.	Area.	Production.	Average yield.	Area.	Production.	Average. yield.	Area.
	Acres.	*Bushels.*[b]	*Bush.*[b]	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*
1883...	2,613,200	.....	.....	94,700	2,421,000	25.5	2,707,900	.....	.....	5,300
1884...	2,677,000	82,744,000	30.9	67,900	1,851,000	27.3	2,744,900	84,595,000	30.8	4,500
1885...	2,478,300	80,033,000	32.3	71,000	2,048,000	28.8	2,549,300	82,081,000	32.2	3,900
1886...	2,285,900	63,405,000	27.7	69,500	1,880,000	27.0	2,355,400	65,285,000	27.7	3,600
1887...	2,317,300	76,665,000	33.1	67,200	1,902,000	28.3	2,384,500	78,567,000	32.9	4,000
1888...	2,564,200	74,207,000	28.9	99,000	2,553,000	25.8	2,663,200	76,760,000	28.8	4,600
1889...	2,449,400	75,510,000	30.8	89,700	2,681,000	29.9	2,539,100	78,191,000	30.8	4,100
1890...	2,386,300	75,666,000	31.7	92,300	2,639,000	28.6	2,478,600	78,305,000	31.6	4,100
1891...	2,307,300	74,400,000	32.2	80,900	2,615,000	32.3	2,388,200	77,015,000	32.2	3,600
1892...	2,219,800	60,406,000	27.2	75,400	2,214,000	29.4	2,295,200	62,620,000	27.3	3,400
1893...	1,897,500	50,799,000	26.8	55,000	1,666,000	30.3	1,952,500	52,465,000	26.9	2,700
1894...	1,928,000	61,038,000	31.7	49,300	1,532,000	31.0	1,977,300	62,570,000	31.6	2,900
1895...	1,417,500	38,348,000	27.1	36,500	1,109,000	30.4	1,454,000	39,457,000	27.1	2,000
1896...	1,694,000	58,851,000	34.7	38,000	1,194,000	31.4	1,732,000	60,045,000	34.7	2,200
1897...	1,889,200	56,672,000	30.0	47,200	1,355,000	28.7	1,936,400	58,027,000	30.0	2,900
1898...	2,102,200	75,330,000	35.8	52,800	1,856,000	35.2	2,155,000	77,186,000	35.8	3,400
1899...	2,001,000	67,594,000	33.8	51,900	1,731,000	33.4	2,052,900	69,325,000	33.8	2,400
1900...	1,845,000	54,299,000	29.4	53,800	1,682,000	31.3	1,898,800	55,981,000	29.5	2,200
1901...	1,700,800	54,111,000	31.8	42,900	1,470,000	34.2	1,743,700	55,581,000	31.9	2,300
1902...	1,726,400	58,463,000	33.9	44,200	1,602,000	36.2	1,770,600	60,065,000	33.9	2,100
1903...	1,581,500	49,144,000	31.1	37,600	1,176,000	31.3	1,619,100	50,320,000	31.1	1,800
1904...	1,375,200	38,043,000	27.7	30,800	1,040,000	33.7	1,406,000	39,083,000	27.8	1,500
1905...[c]	1,796,800	60,759,000	33.8	37,900	1,430,000	37.8	1,834,700	62,189,000	33.9	1,700
1906...	1,755,600	60,954,000	34.7	43,900	1,527,000	34.8	1,799,500	62,481,000	34.7	1,700

BARLEY.[d]

1883...	2,292,000	.....	.....	183,600	6,594,000	35.9	2,475,600	.....	.....	10,100
1884...	2,168,800	76,242,000	35.2	167,400	6,255,000	37.4	2,336,200	82,497,000	35.3	9,900
1885...	2,257,300	81,749,000	36.2	179,500	6,740,000	37.6	2,436,800	88,489,000	36.3	10,000
1886...	2,241,200	74,362,000	33.2	181,900	6,478,000	35.6	2,423,100	80,840,000	33.4	9,800
1887...	2,085,200	67,359,000	32.3	162,400	4,841,000	29.8	2,247,600	72,200,000	32.1	7,700
1888...	2,085,600	70,640,000	33.9	171,300	6,316,000	36.9	2,256,900	76,956,000	34.1	7,700
1889...	2,121,500	69,552,000	32.8	186,300	7,580,000	40.7	2,307,800	77,132,000	33.4	8,000
1890...	2,111,200	76,264,000	36.1	182,400	7,146,000	39.2	2,293,600	83,410,000	36.4	7,600
1891...	2,112,800	74,402,000	35.2	178,300	7,735,000	43.4	2,291,100	82,137,000	35.9	7,900
1892...	2,036,800	72,706,000	35.7	175,600	6,723,000	38.3	2,212,400	79,429,000	35.9	7,800
1893...	2,075,100	61,412,000	29.6	169,000	6,469,000	38.3	2,244,100	67,881,000	30.2	7,200
1894...	2,095,800	74,573,000	35.6	164,800	6,568,000	39.9	2,260,600	81,141,000	35.9	7,600
1895...	2,166,300	70,814,000	32.7	171,800	6,643,000	38.7	2,338,100	77,457,000	33.1	8,300
1896...	2,104,800	73,005,000	34.7	173,400	7,344,000	42.3	2,278,200	80,349,000	35.3	7,800
1897...	2,035,800	68,920,000	33.9	170,700	6,041,000	35.4	2,206,500	74,961,000	34.0	7,100
1898...	1,903,700	70,197,000	36.9	158,200	6,957,000	44.0	2,061,900	77,154,000	37.4	6,900
1899...	1,982,100	69,850,000	35.2	169,700	7,101,000	41.8	2,151,800	76,951,000	35.8	7,600
1900...	1,990,300	64,278,000	32.3	174,200	6,491,000	37.3	2,164,500	70,769,000	32.7	7,700
1901...	1,972,400	63,033,000	32.0	161,700	6,808,000	42.1	2,134,100	69,841,000	32.7	6,800

[a] Exclusive of the Isle of Man and the Channel Islands.
[b] Winchester bushels.
[c] Not including about 200 acres, the produce of which was cut green.
[d] Including bere.

TABLE 66.—*Grain production of the* ***United Kingdom,*** *1883–1906*—Continued.

BARLEY [a]—Continued.

Year.	Great Britain. Area.	Great Britain. Production.	Great Britain. Average yield.	Ireland. Area.	Ireland. Production.	Ireland. Average yield.	United Kingdom.[b] Area.	United Kingdom.[b] Production.	United Kingdom.[b] Average yield.	Isle of Man and Channel Islands. Area.
	Acres.	*Bushels.*[c]	*Bush.*[c]	*Acres.*	*Bushels.*	*Bush.*	*Acres.*	*Bushels.*	*Bush.*	*Acres.*
1902	1,909,400	68,590,000	35.9	167,900	8,276,000	49.3	2,077,300	76,866,000	37.0	5,800
1903	1,858,500	61,348,000	33.0	158,800	6,079,000	38.3	2,017,300	67,427,000	33.4	4,500
1904	1,840,700	58,996,000	32.1	158,100	5,480,000	34.7	1,998,800	64,476,000	32.3	4,100
1905	1,713,700	59,941,000	35.0	154,600	7,183,000	46.4	1,868,300	67,124,000	35.9	4,000
1906	1,751,200	62,462,000	35.7	176,500	7,215,000	40.9	1,927,700	69,677,000	36.2	3,900
					OATS.					
1883	2,975,400			1,381,900	65,979,000	47.7	4,357,300			13,800
1884	2,915,400	112,845,000	38.7	1,348,400	63,383,000	47.0	4,263,800	176,228,000	41.3	14,100
1885	2,940,500	111,780,000	38.0	1,328,900	63,468,000	47.8	4,269,400	175,248,000	41.0	14,100
1886	3,081,600	120,271,000	39.0	1,322,000	64,325,000	48.7	4,403,600	184,596,000	41.9	14,200
1887	3,088,000	110,664,000	35.8	1,315,100	53,023,000	40.3	4,403,100	163,687,000	37.2	15,300
1888	2,882,300	110,727,000	38.4	1,280,900	61,707,000	48.2	4,163,200	172,434,000	41.4	14,400
1889	2,888,700	117,017,000	40.5	1,239,000	61,714,000	49.8	4,127,700	178,731,000	43.3	14,700
1890	2,903,000	123,976,000	42.7	1,221,000	62,287,000	51.0	4,124,000	186,263,000	45.2	14,600
1891	2,899,100	115,928,000	40.0	1,215,400	65,918,000	54.2	4,114,500	181,846,000	44.2	14,500
1892	2,997,500	119,960,000	40.0	1,226,200	63,236,000	51.6	4,223,700	183,196,000	43.4	14,200
1893	3,171,800	116,445,000	36.7	1,248,300	67,885,000	54.4	4,420,100	184,330,000	41.7	15,800
1894	3,253,400	139,732,000	42.9	1,254,800	67,518,000	53.8	4,508,200	207,250,000	46.0	16,000
1895	3,296,100	125,998,000	38.2	1,216,400	63,774,000	52.4	4,512,500	189,772,000	42.1	15,500
1896	3,095,500	117,609,000	38.0	1,193,600	59,528,000	49.9	4,289,100	177,137,000	41.3	14,900
1897	3,036,100	120,530,000	39.7	1,175,100	56,927,000	48.4	4,211,200	177,457,000	42.1	14,700
1898	2,917,800	122,669,000	42.0	1,165,400	65,395,000	56.1	4,083,200	188,064,000	46.1	14,700
1899	2,959,800	118,363,000	40.0	1,135,500	62,636,000	55.2	4,095,300	180,999,000	44.2	14,500
1900	3,026,100	118,467,000	39.1	1,105,000	61,291,000	55.5	4,131,100	179,758,000	43 5	14,700
1901	2,996,900	113,576,000	37.9	1,099,300	62,240,000	56.6	4,096,200	175,816,000	42.9	16,100
1902	3,057,000	134,493,000	44.0	1,082,100	65,570,000	60.6	4,139,100	200,063,000	48.3	17,700
1903	3,140,200	128,611,000	41.0	1,097,500	58,816,000	53.6	4,237,700	187,427,000	44.2	19,300
1904	3,252,900	131,423,000	40.4	1,078,800	60,142,000	55.8	4,331,700	191,565,000	44.2	19,400
1905	3,051,400	120,106,000	39.4	1,066,800	60,754,000	56.9	4,118,200	180,860,000	43.9	19,200
1906	3,043,000	127,273,000	41.8	1,076,300	62,751,000	58.3	4,119,300	190,024,000	46.1	19,200

TABLE 66.—*Grain production of the* ***United Kingdom,*** *1883–1906*—Continued.

RYE.

Year.	Great Britain. Area.	Ireland. Area.	Ireland. Production.	Ireland. Average yield.	United Kingdom.[b] Area.	Isle of Man and Channel Islands. Area.
	Acres.	*Acres.*	*Bushels.*	*Bushels.*	*Acres.*	*Acres.*
1883	50,800	7,200	166,000	22.9	58,000	64
1884	47,000	7,100	159,000	22.2	54,100	42
1885	50,800	8,400	213,000	25.4	59,200	79
1886	55,900	10,600	245,000	23.2	66,500	99
1887	55,200	10,800	233,000	21.6	66,000	76
1888	75,100	13,900	374,000	26.8	89,000	99
1889	69,400	15,800	407,000	25.8	85,200	79
1890	54,800	14,600	338,000	23.2	69,400	61
1891	46,600	13,400	364,000	27.1	60,000	78
1892	48,100	13,100	329,000	25.1	61,200	169
1893	55,900	13,500	356,000	26.5	69,400	142
1894	90,600	11,900	304,000	25.5	102,500	138
1895	68,700	11,500	308,000	26.7	80,200	63
1896	74,800	13,700	349,000	25.5	88,500	77
1897	76,500	13,100	283,000	21.7	89,600	88
1898	68,800	12,400	316,000	25.5	81,200	106
1899	52,200	12,100	311,000	25.7	64,300	93
1900	53,600	11,400	293,000	25.7	65,000	73
1901	56,600	11,000	301,000	27.3	67,600	101
1902	68,400	9,600	271,000	28.1	78,000	147
1903	59,100	10,000	270,000	26.9	69,100	114
1904	55,700	9,400	245,000	26.0	65,100	49
1905	62,200	10,200	274,000	27.0	72,400	128
1906	64,800	10,300	285,000	27.6	75,100	271

[a] Including bere. [b] Exclusive of the Isle of Man and the Channel Islands. [c] Winchester bushels.

EQUIVALENTS.

MEASURES OF SURFACE.

1 hectare (metric)=2.47104 acres.
1 joch (Hungary)=1.4220 acres.
1 tønde land (Denmark)=1.3631 acres.
1 stremma (Greece)=0.247104 acre
1 dessiatine (Russia)=2.6997 acres.

MEASURES OF WEIGHT OR CAPACITY.

1 kilogram, 1 metric quintal, 1 hectoliter, 1 liter (metric) =2.204622 pounds; =220.4622 pounds; =2.8377 Winchester bushels; =0.028377 Winchester bushel.
1 tønde (Denmark)=3.9479 Winchester bushels.
1 kilé (Greece)=1.07 Winchester bushels.
1 oke (Greece)=2.822 pounds.
1 chetvert (Russia)=5.9568 Winchester bushels.
1 pood (Russia)=36.1128 pounds.
1 kilé (Turkey)=1 Winchester bushel.
1 imperial bushel (Great Britain)=1.031515 Winchester bushels.
1 hundredweight (Ireland)=112 pounds.

MONETARY UNITS.

1 crown (Austria-Hungary)=$0.203.
1 florin (former gold, Austria-Hungary)=$0.482.
1 franc (Belgium, France, Switzerland), 1 lev (Bulgaria), 1 mark (Finland), 1 drachma (Greece), 1 lira (Italy), 1 lëu (Roumania), 1 dinar (Servia), 1 peseta (Spain) =$0.193.
1 crown (Denmark, Norway, Sweden)=$0.268.
1 mark (Germany)=$0.238.
1 florin (Netherlands)=$0.402.
1 milreis (Portugal)=$1.080.
1 ruble (Russia)=$0.515. [a]
1 pound sterling (United Kingdom)=$4.8665.

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[a] Since 1897; in 1883, 47.8 cents; 1884, 49 cents; 1885, 48.8 cents; 1886, 47.1 cents; 1887, 43.2 cents; 1888, 45.1 cents; 1889, 51.1 cents; 1890, 56.1 cents; 1891, 53.5 cents; 1892, 48.8 cents; 1893, 50.7 cents; 1894, 52.4 cents; 1895, 52.3 cents; 1896, 51.7 cents.

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